

# Comprehensive Regional Growth Plan for the Fort Bragg Region

## Assessment and Recommendations



## Chapter 15 Moore County

September 2008

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*Submitted to the:*

# **FORT BRAGG AND POPE AFB BRAC REGIONAL TASK FORCE**

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Kathi Beratan, PhD & James Helgeson, PhD (Editors)  
Kenan Institute for Private Enterprise, UNC-Chapel Hill (Air Travel)  
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## **DISCLAIMER**

This report is intended as an aid to planners, managers, elected officials, and other decision makers in the Fort Bragg region. Our aim is not to dictate what should be done, but to assist in ongoing efforts to achieve goals and objectives identified and valued by the residents of the region. The recommendations presented in this report are suggestions for how the region could work towards those goals and objectives, based on best available information and current understandings.

The information, projections and estimates in this report are based upon publicly available data and have been prepared using generally accepted methodologies and formulas. The projections and needs presented in this report are based upon best estimates using the available data. It is important to note that currently available information and understandings are incomplete and cannot account for the inevitable, but unpredictable, impacts of unexpected global, national, state, and/or local events. Actual results and needs may differ significantly from the projections of this report due to such unforeseen factors and conditions, as well as inaccuracy of available data, and/or factors and conditions not within the scope of this project. Persons using this information to make business and financial decisions are cautioned to examine the available data for themselves and not to rely solely on this report.

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# Chapter 15: Moore County

## A. Introduction

This report presents the results of a thorough assessment of the impact of the expansion at Fort Bragg and identifies action items that need to be taken to prepare for this growth. The assessment process included dozens of individual interviews and working group meetings attended by a diverse group of planners and engineers, elected officials, city and county employees, representatives of chambers of commerce, and other stakeholders. Their insights guided teams of experts in their information gathering and analysis. Following the sustainability guidelines described in the introduction to the full report, the information presented here is intended to support proactive, integrated, regional planning through which the region's communities can develop innovative and effective responses to potential as well as already existing problems.

This section, which identifies issues facing Moore County and presents strategies for accommodating the impact of military-related growth, can be read

either independently or as part of the larger Growth Management Plan. It includes an assessment of the following topics:

- Economic Impact
- Education (K-12)
- Housing
- Information and Communication Technologies
- Water, Sewer, & Solid Waste
- Health Care
- Hospitality and Cultural Resources

Moore County encompasses approximately 698 square miles. It includes eight incorporated municipalities—the City of Robbins and the Towns of Aberdeen, Cameron, Carthage, Pinebluff, Southern Pines, Taylortown, and Vass—and several small unincorporated communities and villages (**Figure 1**).

Figure 1. Map of Moore County

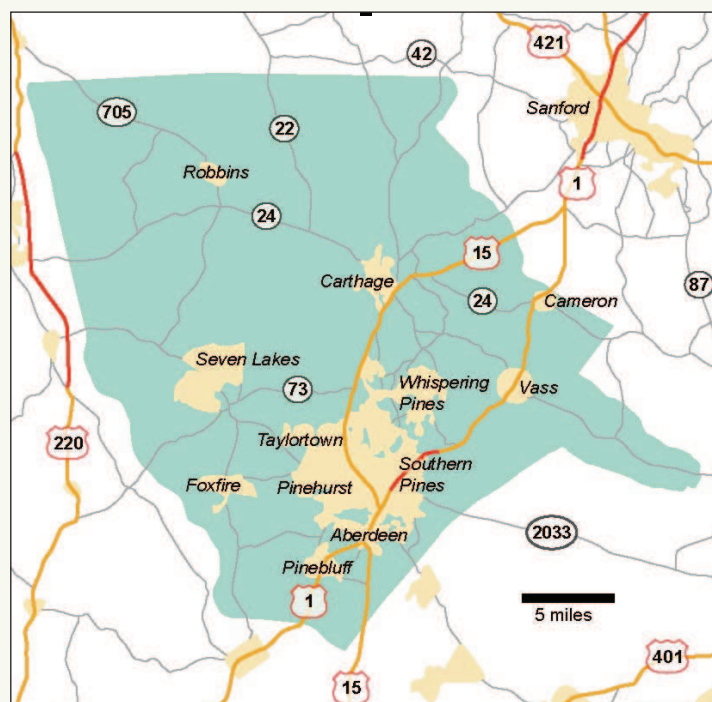




Table 1: Expected Number of Additional Military-Related Personnel

	2006	2007	2008	2009	2010	2011	2012	2013	Totals
Active-Duty Army	2,242	129	1854	1,310	477	-700	153	143	5,608
Active-Duty Air Force	-309	-1088	-786	-579	-460	70	155	50	-3,247
Army Civilians	393	102	149	216	17	1,072	0	0	1,949
Air Force Civilians	23	257	-19	-85	-31	-3	0	0	142
Defense Contractors	1274	632	253	120	120	1,226	504	-27	4,102
Totals	3,623	32	1,451	982	123	1,615	762	116	8,704

## 1. Growth Scenarios Used in This Report

The terms “normal growth” and “expected growth” figure prominently in the following discussion. “Normal”—that is, natural—growth refers to the changes in local population and other economic factors that would be affecting housing markets and school systems even if there were no military expansion at Fort Bragg. “Expected growth” refers to the additional growth that will occur as a result of the planned expansion at Fort Bragg.

The number of additional military-related personnel expected to relocate to the region from 2006 through 2013 is shown in **Table 1**.

In addition, the expected growth scenario includes expected construction expenditures for military projects managed by the Army Corps of Engineers, as well as privatized military housing projects managed by Picerne Housing. Military construction expenditures total \$1.3 billion<sup>1</sup> between 2006 and 2013, and privatized military housing construction totals \$336 million<sup>2</sup> between 2006 and 2013. For a complete discussion of the economic modeling and associated assumptions developed for this project, refer to the regional economic impact chapter.

## 2. Recommended Actions

The “Recommended Actions” section located at the end of each section lists specific actions suggested as responses to the challenges identified in the chapter. All of the recommended actions are important for the region as a whole; each recommended action is

classified as being either “critical” or “important” based on the relevance of the action to the mission of Fort Bragg. Critical actions are urgent actions; failure to implement them could jeopardize the base’s mission. Important actions represent a less urgent “best practice” of more general value to the region, in that failure to implement an important action could adversely affect community planning but would not jeopardize Fort Bragg’s mission.

## B. Economic Impact of Military Growth

*The infusion of military, civilian, and supporting contractors, together with the concomitant investments needed for construction and related activities, is expected to provide a boost to the Moore County economy and lead to a more than \$12.4 million increase in Gross Regional Product in 2013. The Fort Bragg expansion will also account for an additional \$161 million in personal income, \$139 million in disposable income, \$96 million in output (sales), and \$181 million in demand in 2013. The total population for Moore County in 2013 is expected to be 96,188, including 4,128 that are a result of military expansion.*

In order to understand how a community is going to change, it is necessary to identify where that community currently stands. When considering the growth of an entire county, broad demographics that show population, income, employment, and commuting trends can provide a reliable snapshot of where the county is now and where it is headed.

1. Estimates provided by Glenn Prillaman, Fort Bragg Directorate of Public Works

2. Estimates provided by Gary Knight, Picerne Housing

Table 2. Population Growth in Moore County, 2000-2006

Municipality	April 2000 Population	July 2006 Population	Change (number)	Change (%)
Aberdeen	3,400	4,434	1,034	30.41
Cameron	151	284	133	88.08
Carthage	1,884	2,211	327	17.36
Foxfire Village	474	531	57	12.03
Pinebluff	1,109	1,317	208	18.76
Pinehurst	9,729	11,316	1,587	16.31
Robbins	1,195	1,275	80	6.69
Southern Pines	10,918	11,990	1,072	9.82
Taylortown	875	947	72	8.23
Vass	750	792	42	5.60
Whispering Pines	2,090	2,358	268	12.82
Unincorporated Area	42,195	44,837	2,642	6.26
Moore County Total	74,770	82,292	7,522	10.06

## 1. Population

The population of Moore County increased 10.06% between 2000 and 2006. According to the North Carolina State Data Center (SDC) estimates, the population of Moore County increased from 74,770 in April 2000 to 82,292 in July 2006, the most recent date for which data are available. That 10.06% population increase was greater than the 10.1% average statewide increase for the period. Table 2 shows the population growth figures for the county's municipalities between April of 2000 and July of 2006.

As of July 2006, Southern Pines had the 66th largest population, Pinehurst the 67th largest population, and Aberdeen the 139th largest population of the 541 North Carolina municipalities. The majority of the population growth has occurred in the unincorporated portion of Moore County.

At the completion of the expansion at Fort Bragg and Pope Air Force Base in 2013, the total population in Moore County is expected to increase to 96,200, which includes a military-related increase of 4,128.

## 2. Income, Gross Regional Product (GRP), Output, and Demand

In 2013, the Fort Bragg expansion is expected to account for an additional \$161 million in personal income, \$139 million in disposable income, \$124 million in Gross Regional Product, \$96 million in output (sales), and \$188 million in demand.

As a result of military growth (**Table 3**), personal income<sup>3</sup> in Moore County will increase in 2013

3. Personal income, defined as the aggregate income received by all persons from all sources, is calculated as the sum of wage and salary disbursements, supplements to wages and salaries, proprietors' income, rental income, personal dividend income,

Table 3. Economic Impact of Military Growth (excludes normal growth)

	2013 (millions)
Personal Income	+ \$161
Disposable Income	+ \$139
Gross Regional Product	+ \$124
Total Sales (output)	+ \$96
Total Demand	+ \$188



from roughly \$4.19 billion to \$4.35 billion (or by \$161 million). At the completion of the Fort Bragg expansion in 2013, disposable income<sup>4</sup> will have grown by \$139 million to \$3.81 billion. Similar to the trends seen in other variables, income changes in the regional economy spike at the peak of the military expansion in 2011, then settle to a more gradual increase over the long run as the regional economy absorbs the expansion. Gross regional product (GRP), the most commonly used metric for measuring value added to the regional economy, is analogous to the gross domestic product used for benchmarking activities in the national economy. While it was thought that the local economy would grow at a fair pace without the military expansion (that is, normal growth), the infusion of military, civilian, and supporting contractors, together with the concomitant investments needed for construction and related activities, is expected to provide a further boost to the Moore County economy and lead to a GRP increase of \$124 million in 2013. Total sales of local businesses (output) are affected by changes in industry demand, the local region's share of each market, and international exports from the local region. The corresponding increase in 2013 is estimated to be \$96 million. Total demand is defined as the amount of goods and services demanded by the local region; it includes both imports and local supply. Under the Fort Bragg expansion, total demand for Moore County is expected to grow by about \$188 million in 2013 (from about \$5.72 billion to \$5.90 billion)

## C. K-12 Education:

*Moore County Schools, which had a 2007-08 Month 2 K-12 enrollment of 12,325, will experience military-related growth estimated at 542 students between the 2008-09 and 2013-14 school years. The expected military-related impact will be heaviest in the Southern Pines and Pinehurst areas. The West End and Aberdeen elementary areas will be affected to a*

*lesser degree. Because of significant normal growth trends, these areas are already experiencing some capacity shortfalls. In order to staff new classrooms and maintain current educational levels, Moore County will need about \$27.1 million over six years, and another \$22.1 million will be needed for new school construction. Therefore, securing funding for capital improvements and operating funds will be a priority in Moore County.*

School systems nationwide are facing difficult planning challenges arising from increasing student populations, aging school infrastructures, and increasing complexity in pupil assignments. These challenges are shared by Moore County, which must fund building and renovation projects based not only on normal population growth but also on the expected growth that will occur as a result of the military expansion at Fort Bragg.

## 1. Current Conditions

### a. Background

Moore County Schools, with a 2007-08 K-12 enrollment of 12,325,<sup>5</sup> makes up the thirty-second largest school district in North Carolina. Other characteristics of the district include:

- Thirteen elementary schools, four middle schools, three high schools, and two alternative schools serving kindergarten to 5th grade and 6th to 12th grades.
- One thousand five hundred and sixty-three employees, including 45 administrators, 814 teachers, 286 teacher assistants, and 418 support staff<sup>6</sup>
- Elementary school students account for 45.4% of the student population, with middle school and high school students making up 23.2% and 31.4%, respectively.
- No students were identified as connected to the military which resulted in an average Federal Impact Aid per student of zero.<sup>7</sup>

personal interest income, and personal current transfer receipts, less contributions to government social insurance. (REMI Model Documentation Version 9.5).

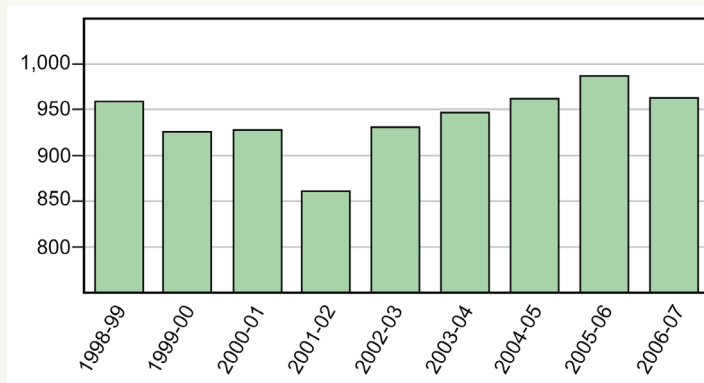
4. Disposable income is defined as the portion of personal income that is available for consumers to spend. Disposable income equals personal income, less taxes and social security contributions, plus dividends, rents, and transfer payments (REMI Model Documentation Version 9.5).

5. North Carolina Department of Public Instruction, 2007-2008 Average Daily Membership (ADM), Month-Two Report.

6. "EAC Education Site Visit, September 9, 2008, Fort Bragg, North Carolina" presented by Dr. Dan Honeycutt, Superintendent, Harnett County Schools.

7. "EAC Education Site Visit, September 9, 2008, Fort Bragg, North

Figure 2. Resident Live Births, Moore County



### b. Facility Needs

As part of this assessment, a detailed out-of-capacity analysis of each school in the district was completed. Enrollment projections were developed based on historical trends and the expected impact of military expansion. These projections were compared to the existing permanent capacity of each school and capacity gaps or surpluses were determined. Estimates for the 2008-2009 school year suggest that, system-wide, the existing permanent building capacity is approximately 11,774 students, which means there is a current system-wide capacity surplus of about 502 students. At the individual school level, there are several schools in the area that is expected to experience significant military-related impact.

Pinehurst Elementary, West End Elementary, New Century Middle, Pinecrest High, and Union Pines High are already operating at 105 percent capacity. Overall however, there is a system-wide capacity surplus at both the elementary and middle level; all high schools combined have a current capacity gap of 593 students.

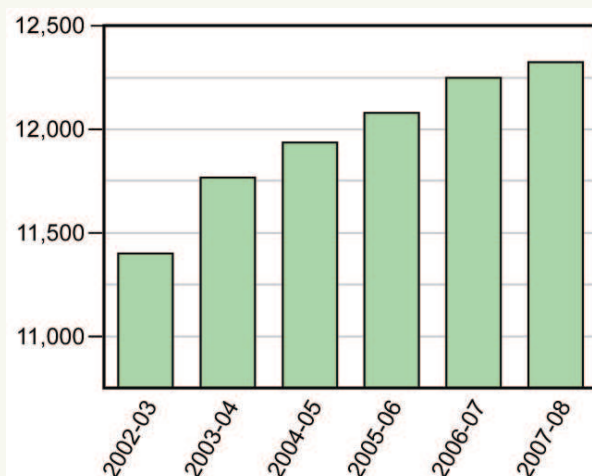
### c. Historical Growth

Although longer historical trends for Moore County resident live births have been moderate, recent data show sharper increases since 2002 (**Figure 2**)<sup>8</sup> The six-year trend in Average Daily Membership for

8. North Carolina Department of Health and Human Services

Carolina" presented by Dr. Dan Honeycutt, Superintendent, Harnett County Schools.

Figure 3. K-12 Average Daily Membership, Moore County



Month 2 is stable and increasing by 177 students per year (**Figure 3**).

## 2. Future Needs

### a. Geographic Distribution of Growth

Moore County Schools experienced a five-year (2002-03 to 2007-08) average annual growth rate of 1.57%, with yearly student population growth rates averaging between 0.6% to 3.2%. The projected normal growth rate for Moore County Schools is expected to average 1.22% per year. Military-related growth is expected to add about 550 school-aged children to Moore County schools between the 2008-09 and 2013-14 school years, which will create a net system-wide increase of approximately 1,400 school-aged children. While planned new schools, modular units, and classroom additions will provide some much-needed relief for certain areas of the county, the current system-wide capacity gap of 250 is expected to decrease only slightly by 2013.

**Figure 4** shows how the expected growth in the K-12 student population will be distributed throughout the county. This map is derived from a combination of GIS analyses—of where current students live, where military personnel live, and where land parcels available for development are located—and interviews about land use conducted with a wide range of knowledgeable stakeholders. Both information sources are important; strong residential growth does not necessarily correlate with increasing student population, and expert local knowledge is required to identify likely patterns. The resultant map reveals strong residential growth trends indicative of a future increase in the number of school-aged children in the Southern Pines area as well as the Pinehurst area. Current demographic data suggests Moore County Schools might be a stronger attractor of military-related civilian populations and further secondary civilian growth during the latter stages of the military-related growth, specifically among the FORSCOM-related personnel.

Figure 4. Growth potential for K-12 student population. Darker blue indicates areas where the number of school-aged children is expected to grow the most

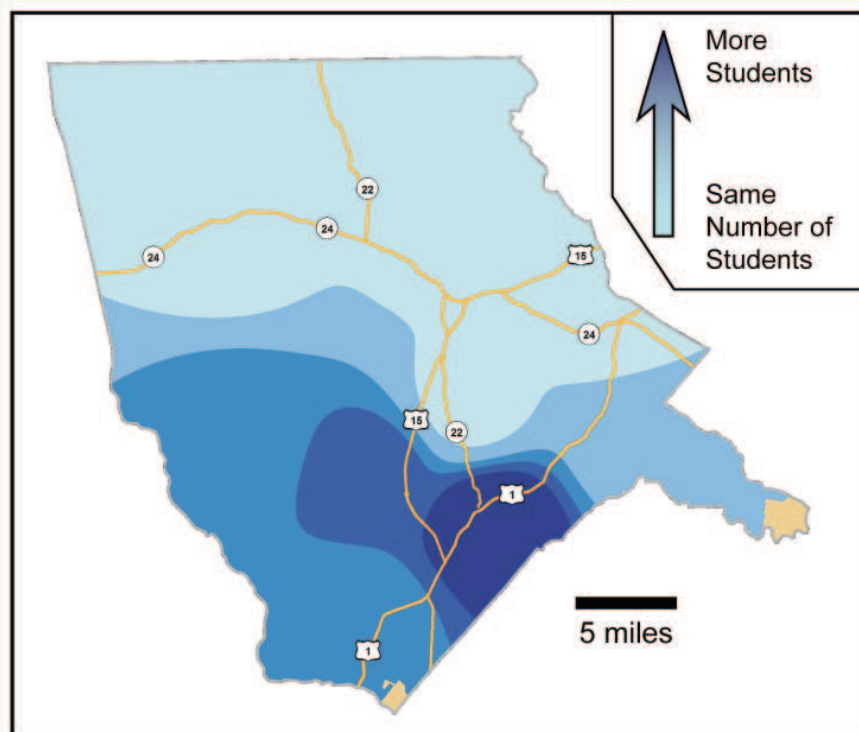


Figure 5: Projected Growth in Student Enrollment by School Level (2008-09 to 2013-14)

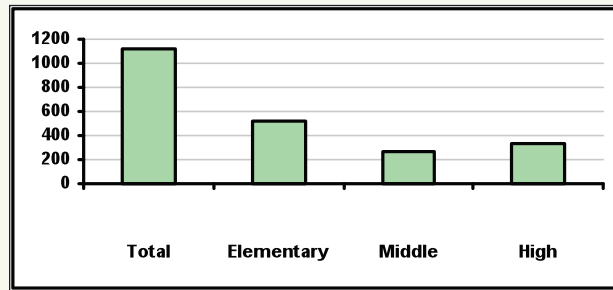
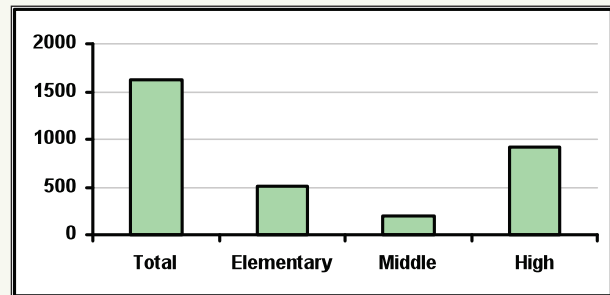


Figure 6: Projected Capacity Gap in Permanent Facilities by School Level (# of students)



### 3. Projected Growth and Facilities Capacity

#### a. System-Wide

Ten year enrollment projections were developed for all schools in the district<sup>9</sup>. Projections were based on historical school enrollment records as well as available data about the number of newborn babies in each school district. The analysis determined cohort survival ratios, defined as the proportion of students enrolled in one grade in a specific school year relative to the number of students enrolled in the next grade level and school year. These ratios, in turn, were used to develop a system-wide, enrollment forecast, which was then compared with estimates of school capacity in order to project capacity shortfalls in 2013. The total anticipated growth<sup>10</sup> in school enrollments between the 2008-09 and 2013-14 school years is approximately 1,125 students (includes 542 students resulting from military-related growth). **Figure 5** details the projected school enrollments.

Projections for the 2013-2014 school year suggest that, system-wide, the permanent facilities capacity gap will be 1,627 students (**Figure 6**).

Gains of 270 military-related K-5 students are expected between 2008-09 and 2013-14. For the same period, middle school populations are expected to grow by 120 military-related students, and high

school populations are expected to grow by 120 military-related students. Total K-12 impact between 2008-07 and 2013-14 is expected to be about 550 military-related students.

The Moore County school system is planning to open a new middle school in 2011 (opening capacity 450, core capacity 850) to relieve the overcrowded New Century Middle School. Also planned is a new elementary school in 2011 or 2012 (opening capacity 500, core capacity 650) to relieve southwestern areas of the county. Several additions to existing schools have been funded by a \$54M bond passed in November of 2007. These projects will add thirty-three classrooms to the county's elementary schools as well as twenty modular units for the three high schools. Expansions should be complete by 2011.

Growth is expected to be concentrated in the southern and southeastern areas of the county, which have already seen significant amounts of normal growth in recent years. Even after the new elementary school opens in 2009 and planned expansions are implemented, the effects of military-related as well as normal growth will continue to create capacity deficiencies for elementary schools in this area. By 2013, the seven current elementary schools in this general area—West End Elementary, Pinehurst Elementary, Aberdeen Primary/Aberdeen Elementary, Sandhills-Farm Life Elementary, Vass-Lakeview Elementary, and Southern Pines Elementary—as well as the new 500-seat elementary school, are projected to be at 97% capacity.

9. At the time of this analysis, actual 20 day ADM numbers were not available for the 2008-09 school year. Estimates were used based on available data.

10. Includes normal growth plus the expected military-related growth.

Table 4. Out-of-Capacity Projections for Military-Impacted Schools

	Capacities	Projected Month 2 ADM					
	2009-10	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
High							
North Moore High	705	622	628	630	631	641	649
Pinecrest High	1606	2034	2089	2102	2104	2185	2254
Union Pines High	990	1237	1257	1262	1263	1294	1319
Totals	3301	3894	3975	3995	3999	4120	4222
	Capacities	Capacity Utilization					
		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
North Moore High	705	88%	89%	89%	90%	91%	92%
Pinecrest High	1606	127%	130%	131%	131%	136%	140%
Union Pines High	990	125%	127%	128%	128%	131%	133%

#### b. Military-Impacted School Clusters

In order to assess the impact of pending school construction projects on capacity gaps and to provide guidance on the siting of future schools, military-impacted school clusters were identified. Clusters include the individual school attendance areas - at the elementary, middle and high school levels - expected to receive the largest military impact. Once specific clusters were identified, the out-of-capacity analysis was redone at the cluster levels to illustrate year-by-year capacity gaps. A high school cluster analysis was developed as a part of this assessment (**Table 4**).

The schools included in the high school cluster are North Moore, Pinecrest, and Union Pines. The out-

of-capacity analysis suggests that Pinecrest and Union Pines High Schools are operating at or above 125 percent of capacity for the 2008-09 school year. The 2007 bond funded twenty modular units to provide immediate relief for high school overcrowding, but this temporary solution will only delay the need for a new high school. As later stages of the military-growth-related population migrate into the region, it is expected that older incoming student populations will cause an even greater strain on the high school capacity. It should be noted that at 31.4%, the proportion of 9th-12th graders in Moore County Schools is higher than for any other Tier I school system.

Figure 7. Additional School Construction Cost associated with Military-Related Growth (\$ in millions)

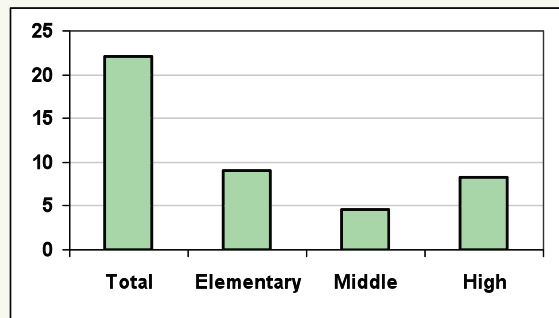
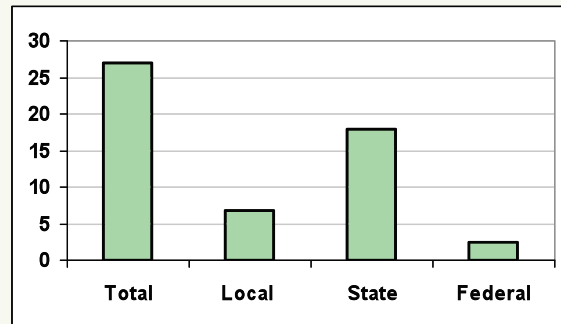


Figure 8. Additional Administrative and Operations Cost associated with Military-Related Growth (\$ in millions)



## D. Gaps

As mentioned, approximately 542 additional students will enroll in Moore County schools as a result of military-related growth.<sup>11</sup> This additional influx of students translates into a need to spend an additional \$22.1 million to construct new schools<sup>12</sup> (**Figure 7**). Further research is necessary to determine the unfunded portion of this construction cost estimate.

In addition to the cost of constructing new schools, there are additional administrative and operations costs, such as salaries, instructional supplies, utilities, maintenance, transportation, etc. The Hoke County school district operates with money from local, state, and federal sources. Public schools are funded largely through tax dollars. The State provides the overwhelming majority of school funding in Hoke County, with the federal government providing the least. Sixty-six percent of school funding comes from state sources, nine percent from federal sources,

and twenty-five percent from local sources.<sup>13</sup> The total per-pupil expenditure in Moore County is \$7,717 annually compared to an average of \$7,800 for the Tier I counties. Based on these costs, in order to maintain the same level of educational services for six years<sup>14</sup>, approximately \$27 million will be necessary to educate the additional military-related students. The local portion of this cost is about \$6.8 million (**Figure 8**).

13. North Carolina Department of Public Instruction, 2006-2007 School Statistical Profile

14. From the 2008-09 through 2013-14 school years

11. Compares the 2008-09 enrollment to the projected 2013-14 enrollment.

12. Based on enrollment projections, the ratio of elementary school, middle school, and high school attendance in the county was determined for the 2008-09 school year. Based on this ratio, the total military-connected students moving into the district were allocated to elementary, middle and high school categories. The average cost per student to construct a school was obtained from Smith Sinnett Architects and assumes a 5-year construction inflation cost and a \$20K per acre land cost. The estimate is \$35,784 for an elementary school, \$40,388 for a middle school and \$48,429 for a high school. Thus, the cost of construction is determined by multiplying the number of students at each school level by the applicable cost per student to construct a school.



## E. Recommended Actions

### **Critical Action 1: Identify potential funding sources for the construction and operation of the additional school capacity**

**Description:** Current funding sources will not provide sufficient funding to fill the capital and operating needs of the County. A committee should be formed to identify potential sources for additional funding. Potential funding sources include: (1) a higher level of Federal Impact Aid, which is supposed to compensate local educational agencies for “substantial and continuing financial burden” resulting from federal activities such as the enrollments of children of military parents who live or work on federal land; and (2) traditional funding sources, such as general obligation bonds and raising property or sales taxes, which would need a focused effort to build public support since they require voter approval. In addition, the committee should explore the possibilities for obtaining special funding from the Department of Defense to deal with the special burden imposed on local schools by the BRAC process. Legislation, such as the Military Children’s School Investment Act recently introduced in Congress by Congressman Robin Hayes, should be supported.

The school system should also engage the Department of Public Instruction in enrollment forecasting. Even though DPI forecasting is conducted many months prior to the school opening when the exact number of military-related students is still unknown, the county should be able to provide relevant data that will support a joint effort to plan funding for new teachers and staff.

**Responsible Parties:** The exploratory committee should be formed by the BRAC Regional Task Force in partnership with Moore County Schools and Moore County government.

### **Critical Action 2: Identify short-term strategies for accommodating expected enrollment increases in the next few years.**

- **Description:** Moore County is expecting significant increases in student numbers over the next few years. The County should continue implementing short-term strategies for dealing with these increases until permanent solutions are secured. Strategies include:
  - Mobile classroom or modular classroom facilities
  - Temporary capping of enrollment at overcrowded schools plus temporary busing of students to under-utilized schools
  - Alternative-calendar schools
  - Rental of off-site, swing-space buildings to accommodate students over the short term

**Responsible Parties:** The BRAC Regional Task Force will work with Moore County Schools and the Harnett County Commission to identify solutions.

**Critical Action 3: Update out-of-capacity analysis using actual 2008-09 enrollment numbers**

**Description:** The out-of-capacity analysis in this assessment was based on estimated enrollments for the 2008-09 school year. The actual enrollment numbers – based on the 20-day ADM - are now available. This update will verify the need for the additional elementary, middle and high schools recommended in this assessment. An additional military-impacted cluster analysis of the elementary and middle school levels is also recommended.

**Responsible Parties:** The BRAC Regional Task Force will work with Moore County Schools to ensure that the most up-to-date information is used in any future assessments.

**Important Action 4: Promote local government and school system collaboration in locating schools, houses, and neighborhoods**

**Description:** Because the projected school capacity gap in Moore County is not evenly distributed across the county, efficient use of limited capital improvement funds will require strategic distribution of new facilities. Moore County Schools and local governments should consider adopting Smart Growth principles whereby school facility planning and local government planning efforts are integrated so as to reach multiple community goals—educational, economic, social, and fiscal. Collaborative decisions regarding the location of schools, houses, and neighborhoods will promote policies that are consistent across governmental and functional boundaries. The availability and price of land is obviously an important factor in siting schools. GIS-driven technology – such as the technology used to determine optimal school site in this assessment - is available that will assist in correlating school decision-making with projected land use trends.

**Responsible Parties:** The integration of a collaborative model of decision making is recommended for all counties in the region. The BRAC Regional Task Force is well positioned to provide regional access to expert technologies and organizations.

## F. Housing

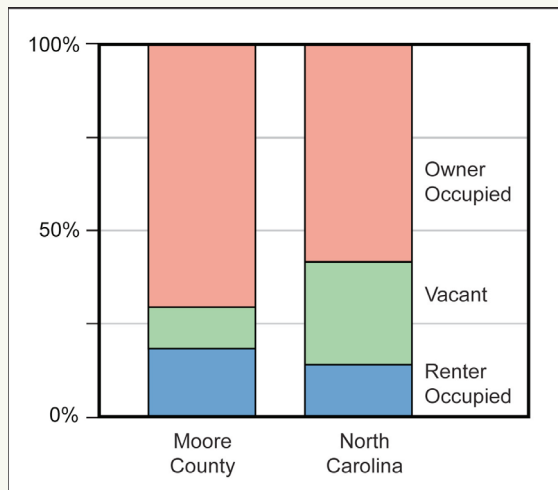
*The Moore County for-sale housing market continues to outperform the national and regional housing markets. The area's housing, which is substantially more affordable than is the case in most areas of the United States, has a history of housing price appreciation. Although the local market has begun to slow in the last eighteen months, negative impacts to the local economy are being reduced substantially by military spending at Fort Bragg. Moore County offers its present and future residents a wide variety of housing choices, ranging from smaller homes for less than \$100,000 to larger estate homes for \$400,000 plus.*

### 1. Current Conditions

#### a. Housing Characteristics

The number of housing units in Moore County in 2007 is estimated to be 39,704, which is up from 35,151 housing units in 2000, suggesting an average annual growth rate of 1.9% for the last seven years. Approximately 5,201 (13.1%) of these housing units are vacant, compared to a statewide vacancy rate of 14.2%. The remaining 34,503 units in Moore County are owner-occupied (79.3%) and renter-occupied (20.7%) (Figure 9). The statewide rates for owner-occupied units and renter-occupied units are 59.6% and 27.9%, respectively.

Figure 9. Housing occupancy by type in Richmond County in 2007, compared with the statewide average



## 2. For-Sale Housing

Because complete information on “for-sale” housing is not available in Moore County, the following analysis combines figures for existing and newly constructed single-family homes. Between 2005 and 2006, the average sales price of a single-family home grew from \$226,969 to \$237,645, an average annual increase of 4.7%. The average sales price for 2007 is \$245,041, an increase of 3.1% over 2006.<sup>15</sup>

Home sale prices have continued to appreciate despite a decline in prices nationally and in the South (**Figure 10**).

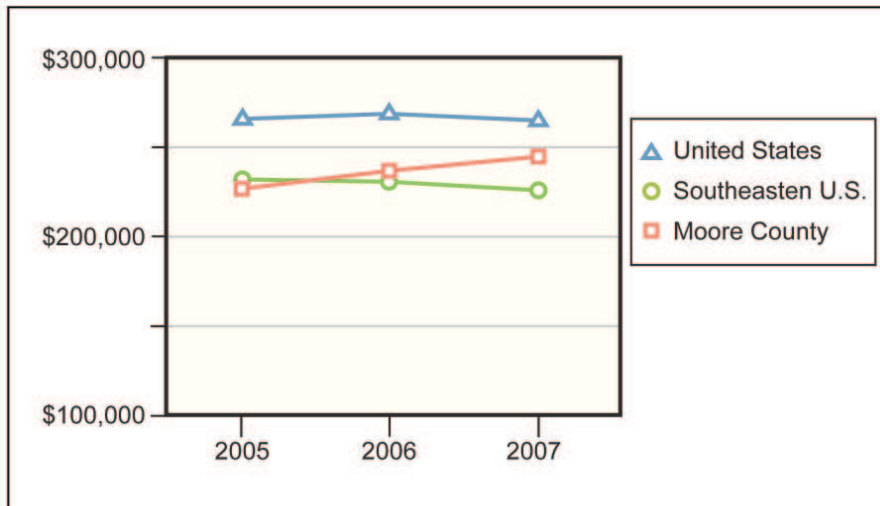
A total of 3,335 single-family units were sold in Moore County between 2002 and 2006, an average of 1,688 units annually. A total of 1,186 units were sold in 2007, indicating a downturn in the market. Three-bedroom units comprised 61% of all units sold and sold in an average 127 days. Overall there is slightly less than a nine-month inventory of homes on the market, compared to a national inventory of approximately nine months for existing homes and slightly less than ten months for new homes.

An affordability analyses measures whether or not a typical homebuyer could qualify for a mortgage loan on a typical new home in Moore County<sup>16</sup>. Factors to consider when determining whether the typical homebuyer can qualify for a mortgage on a typical home include:

- The average price for a typical three-bedroom, two-bathroom new home that contains approximately 1,400 square feet is \$215,000
- A minimum down payment of 5% of the purchase price is required.
- Mortgage principal and interest cannot exceed 28 percent of the median monthly income.
- The prevailing mortgage interest rate is assumed to be 6.5%.

15. The Median sales price of a three-bedroom unit, including both existing and new construction. Data provided by the Pinehurst - Southern Pines Association of REALTORS, as of December 2007  
 16. According to the Fort Bragg Community Impact Assessment (page 17), 71% of the military families coming into the area will be pay grades E3 through E5 and 10% will be pay grades O1 through O3

Figure 10. Average sales price for single-family homes in Moore County in 2007, compared with averages for existing and new homes in the region.



Affordability analyses are commonly based on index values. An index value of 100 means that a homebuyer has exactly enough income to qualify for a mortgage on a typical, median-priced new home. An index value above 100 signifies that a homebuyer earning the median income has more than enough income to qualify for a mortgage loan on a median-priced new home. For example, an affordability index of 120 means that a homebuyer has 120% of the income necessary to qualify for a loan covering 95% of a median-priced, new single-family home.

Single active-duty military personnel have affordability indices ranging from 57 for a junior enlisted (E2) to 190 for a company grade officer (O5). This suggests that the typical three-bedroom, two-bathroom new home would not be affordable for many junior enlisted personnel. However, since these affordability indices are based on a single-earner family, and many families have two or more incomes, selected homes are affordable to junior enlisted personnel as well.

In terms of housing production, single-family housing permits rose between 2003 and 2005, with 989 permits being issued in 2005. Beginning in 2006, the number of permits dropped to 965. An additional 622 single-family permits were issued in 2007. Permitting activity will probably continue to decline as the existing inventory of new homes is reduced.

#### a. Rental Housing

The price of rental housing typically averages from \$479 a month for a one-bedroom, one-bath unit to \$867 a month for a three-bedroom, two-bath unit. In terms of multi-family housing production, the number of building permits issued has declined from eighty-six units in 2005 to twelve in 2007. The twelve units for which permits were issued in 2007 are located in Aberdeen and in unincorporated Moore County.

Rental affordability depends on both affordable monthly rent rates and the availability of units having such rates. Under U.S. Department of Housing and Urban Development (HUD) guidelines, a family should spend no more than 30% of its income on rent and utilities. To assess the affordability of housing for military personnel, military income is defined as base pay, subsistence allowance, and housing allowance. Representative pay grades at the lowest number of service years are used when determining the floor necessary to achieve affordability for military families.

Table 5. Rental Affordability in Moore County

Two Person Household						
Rank	E2	E6	W2	W4	O3	O5
Annual Income	\$31,377	\$51,322	\$68,454	\$91,588	\$71,553	\$105,225
Monthly Housing Expense @ 30% of Annual Income	\$784	\$1,283	\$1,711	\$2,290	\$1,789	\$2,631
Fair Market Rent (1-bedroom)	\$479	\$479	\$479	\$479	\$479	\$479
Affordability Gap	\$305	\$804	\$1,232	\$1,811	\$1,310	\$2,152
Fair Market Rent (2-bedroom)	\$603	\$603	\$603	\$603	\$603	\$603
Affordability Gap	\$181	\$680	\$1,108	\$1,687	\$1,186	\$2,028
Three- and Four-Person Household						
Rank	E2	E6	W2	W4	O3	O5
Annual Income	\$31,377	\$51,322	\$68,454	\$91,588	\$71,553	\$105,225
Monthly Housing Expense @ 30% of Annual Income	\$784	\$1,283	\$1,711	\$2,290	\$1,789	\$2,631
Fair Market Rent (2-bedroom)	\$603	\$603	\$603	\$603	\$603	\$603
Affordability Gap	\$181	\$680	\$1,108	\$1,687	\$1,186	\$2,028
Fair Market Rent (3-bedroom)	\$867	\$867	\$867	\$867	\$867	\$867
Affordability Gap	(\$83)	\$416	\$844	\$1,423	\$922	\$1,764

HUD defines a Fair Market Rent as the average rent in the county, by unit size. **Table 5** provides an analysis of the ability of military families at various military income levels to pay the fair market rent.

### 3. Anticipated For-Sale Housing Demand

**Table 6** indicates the county's projected population growth (both normal and military-related) between 2007 and 2013 and the number of single-family homes it will take to accommodate this growth. Table 6 shows a need for about 3,651 owner-occupied homes in Moore County from 2008 through 2013. The majority of these ownership units will be needed for the population associated with normal growth and thus would have been needed even without the base expansion. It should be noted that this is an estimate of homebuyer requirements and should be relied upon only as a guideline.

### 4. Anticipated Rental-Housing Demand

**Table 7** indicates the county's projected population growth (both normal and military-related) between 2007 and 2013 and the number of rental homes it will take to accommodate this growth. There will be need for 953 rental homes in Moore County between 2008 and 2013. The majority of these units will be needed for the population associated with the normal growth, and thus would have been needed even without the base expansion. It should be noted that this is an estimate of rental requirements and should be relied upon only as a guideline.

Table 6. Projected Demand for Owner-Occupied Homes Resulting from Military Growth<sup>1</sup>

	2007	2008	2009	2010	2011	2012	2013	
Population								
Normal Growth	83,932	85,417	86,831	88,140	89,423	90,717	92,004	
Expected Growth	1,289	2,211	2,661	2,781	3,330	3,747	4,128	
Total	85,221	87,628	89,492	90,921	92,753	94,464	96,132	
Total Households								
Normal Growth	35,414	36,041	36,638	37,190	37,731	38,277	38,820	
Expected Growth	544	933	1,123	1,173	1,405	1,581	1,742	
Total	35,958	36,974	37,760	38,363	39,136	39,858	40,562	
Homeowner Households								
Normal Growth	28,084	28,580	29,054	29,492	29,921	30,354	30,784	
Expected Growth	431	740	890	931	1,114	1,254	1,381	
Total	28,515	29,320	29,944	30,422	31,035	31,608	32,166	
For-Sale Housing Units								
Normal Growth	--	497	473	438	429	433	431	2,701
Expected Growth	--	309	151	40	184	140	127	950
Total	--	805	624	478	613	572	558	3,651

1. As a result of comments received at the June 17, 2008 community meeting, this demand analysis is being updated to reflect an increased rate of homeownership and to show Army housing separately.

Table 7. Projected Demand for Rental Homes Resulting from Military Growth

	2007	2008	2009	2010	2011	2012	2013	
Population								
Normal Growth	83,932	85,417	86,831	88,140	89,423	90,717	92,004	
Expected Growth	1,289	2,211	2,661	2,781	3,330	3,747	4,128	
Total	85,221	87,628	89,492	90,921	92,753	94,464	96,132	
Total Households								
Normal Growth	35,414	36,041	36,638	37,190	37,731	38,277	38,820	
Expected Growth	544	933	1,123	1,173	1,405	1,581	1,742	
Total	35,958	36,974	37,760	38,363	39,136	39,858	40,562	
Renter Households								
Normal Growth	7,331	7,460	7,584	7,698	7,810	7,923	8,036	
Expected Growth	113	193	232	243	291	327	361	
Total	7,443	7,654	7,816	7,941	8,101	8,251	8,396	
For-Rent Housing Units								
Normal Growth	--	130	124	114	112	113	112	705
Expected Growth	--	81	39	10	48	36	33	248
Total	--	210	163	125	160	149	146	953



## 5. Recommended Actions

### **Important Action 1: Secure state and Federal funds to provide homebuyer financing, counseling, and education for potential homebuyers.**

**Description:** Given the present “buyer’s housing market” in Moore County, it may be time to accelerate homebuyer financing and counseling efforts. Of course, the continued increase in foreclosures nationally should give caution to any agency considering such an initiative. Many families may not be ready to purchase a home. The number one barrier to buying a home is poor credit. In addition, some families simply cannot afford a down payment. Buyer investment in the home is important for the long-term sustainability of home ownership. For those families that are ready, homebuyer education and counseling that provides both pre-purchase and post-purchase counseling is essential. Such counseling and education will promote awareness of the home-buying process, educate homebuyers on financing alternatives, and provide information necessary to sustain homeownership—information, for example, on home maintenance and budgeting.

**Responsible Parties:** Local realtors, homebuilders, Moore County, financing institutions, and local HUD-approved counseling agencies<sup>17</sup> should coordinate the promotion of marketing and outreach; the BRAC Regional Task Force could lend a hand in this effort.

### **Important Action 2: Participate in FORSCOM Housing Fairs and other events organized by the Army and the BRAC Regional Task Force.**

**Description:** The Fort Bragg region offers a wide variety of home-buying opportunities. There is a substantial housing inventory, especially in the new home market. Personnel relocating from Atlanta with FORSCOM are of particular interest. A recent survey confirms that the income of these individuals is high and that they have a desire for larger estate homes in secure communities. This group is also highly reliant on the Internet, in both their homes and their offices. Participation in homebuyer fairs at FORSCOM in Atlanta and participation in a regional website designed for the FORSCOM and defense contractor audiences are recommended. These efforts, coupled with normal demand for local housing, should reduce the existing inventory of available homes, resulting in a significant increase in new home production levels by late 2009 or 2010.

**Responsible Parties:** The BRAC Regional Task Force has asked Moore County to take the lead in developing a booth for display at any upcoming Atlanta housing fairs held for the benefit of FORSCOM personnel. County

17. <http://www.hud.gov/offices/hsg/sfh/hcc/hcs.cfm>

officials should coordinate closely with local realtors, homebuilders, and other real estate professionals to ensure that Moore County is well represented. The BRAC Regional Task Force could also take a coordinating role in the development of a comprehensive website specifically designed with FORSCOM and defense contractor personnel in mind. This site should be a one-stop shop for everything in the region—from health care and education to housing and leisure activities—with all counties in the region well represented. The website recommendation is described in greater detail in the regional portion of the plan.

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**Important Action 3: Encourage development of affordable rental housing.**

**Description:** While Moore County offers a wide variety of home buying opportunities, it offers fewer apartments and other rental units. The vacancy rate has declined substantially as the foreclosure crisis has forced former homeowners into rental housing. Rental housing is now in short supply. Although most housing for rent in the region is affordable to both military personnel and civilians, households at or below 84% of the area median income who are supporting families of three or more may have difficulty finding affordable rental housing.

**Responsible Parties:** Local apartment developers, property managers, City and County governments, financing institutions, and the State of North Carolina Housing Finance Agency should coordinate the development of new rental housing; the BRAC Regional Task Force could lend a hand in this effort.

**Important Action 4: Promote sustainability through the use of “green building” technologies.**

**Description:** Green building practices offer an opportunity to create environmentally sound and resource-efficient buildings by using an integrated approach to design. Green buildings promote resource conservation, including energy efficiency, renewable energy, and water conservation features; consider environmental impacts and waste minimization; and help create a healthy and comfortable environment<sup>18</sup>. One example of an approach to “green building” is The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ which advocates sustainability in the home building industry.

**Responsible Parties:** Moore County and its municipalities can support the construction of sustainable housing in a number of ways. The county could

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18. [www.hud.gov](http://www.hud.gov)

adopt “green building” standards for private sector construction, incorporate sustainability checklists in rezoning and permitting processes, implement a fast-track building permit process for “green building”, provide financial incentives to build sustainable housing, and support statewide legislation to promote the construction of sustainable housing.

## G. Water, Wastewater, and Solid Waste

*Water supply is a limiting issue in Moore County on various levels. Lack of a significant surface water source exposes the county to some vulnerability of water shortage due to limitations on groundwater withdrawals. The County has recently completed a comprehensive study for water supply in which several recommendations were provided, including interconnections with neighboring systems. However, there is no simple solution. Similarly, Moore County's wastewater treatment plant is at capacity with an expansion with construction to start about August of 2009. The projected population increase to Moore County as a result of military-related growth is approximately 4,128 people in 2013. This could translate into an additional peak water and sewer demand of approximately .62 million gallons per day (MGD). Meeting projected demand through 2030 will cost the County approximately \$23.5 million for water and \$66.3 million for wastewater; the military-related growth adds \$3 million to the capital needs for water and \$6.2 million for wastewater. While there are no specific projects that would that would be needed as a result of the impacts of the military expansion, assistance with several of the County's ongoing projects would alleviate this additional strain imposed by these impacts.*

### 1. Current Conditions

#### a. Water

Data in this section was largely obtained from a review of the recent countywide study of water supply by McGill & Associates. The study was very thorough and extremely beneficial to this analysis. In their study, McGill & Associates recommended a series of short- and long-term options to the Moore County water distribution system owners. These recommendations totaled approximately \$8 million.

Public water service is currently provided to approximately 50,000 of the county's residents by the Moore County Public Utilities (MCPU) Department, East Moore Water District, and nine additional municipalities that operate water distribution systems. The public water systems in the county had a total average daily demand of approximately

6.85 million gallons per day (MGD) in 2006. The combined Moore County distribution systems have approximately 221 miles of water distribution lines.

Most water systems in the county obtain their water from groundwater. This is due primarily because of economics and the county's lack of major surface water supplies. However, in order to meet current demand, some systems have been forced to operate wells in excess of their 12-hour yields permitted by the State. This has prompted the County and many of its water system operators to explore alternative sources of raw water.

Many of the existing surface water bodies have historically had little or no flow during dry weather conditions. The limited amount of surface water available in the county is also often at such a distance from populated areas, the transmission of the water would not be financially feasible. The obvious lack of raw water sources and subsequent supply problems during drought years has led the Town of Southern Pines to construct a 140 MG raw water reservoir. The McGill study recommends that other reservoirs throughout the county be considered.

The water systems in Moore County will likely need to rely on their neighbors for source water in the future. Most neighboring counties have much more lucrative and reliable sources of water. In most cases, interconnections with other systems can also be implemented in a shorter time frame than developing a new potable water supply source even if one were available.

One significant limitation to this transfer of water is the State's regulatory approach to transferring water from one river basin or sub-basin to another, commonly called an inter-basin transfer (IBT). Existing state regulations define an IBT as the transfer of more than 2.0 MGD of surface water from one basin to another. Based on 1993 state legislation titled, "Regulation of Surface Water Transfers Act," interbasin transfers in North Carolina requires prior approval from the Environmental Management Commission. Moore County contains portions of the Deep River basin, the Cape Fear River basin, and the Lumber River Basin, limiting the amount of water that could be moved within Moore County from

neighboring counties without going through multiple IBT certificate processes.

*Moore County (East Moore Water District):* The County owns and operates a water system in the eastern areas of Moore County called the East Moore Water District. The newly created district is providing relief in the way of water supply to many areas in the eastern part of the county. The East Moore Water District is the Cape Fear River Basin. The Moore County (East Moore Water District) system purchases its water from the Harnett County water system with a current maximum of 2.0 MGD. Phase II is underway and expected to come online with some additional capacity in September. The system has approximately forty-two miles of water distribution lines. The Moore County (East Moore Water District) water system has a population of 1,495. The average daily demand is 0.243 MGD. Total water use is divided as follows: 97% residential and 3% commercial.

*Moore County (Addor):* The County owns and operates a water system in the Town of Addor. Addor is located in the south central region of Moore County and is in the Lumber River Basin. The Moore County (Addor) system purchases its water from the Town of Southern Pines water system up to a maximum of 0.250 MGD. The system has approximately two miles of water distribution lines. The Moore County (Addor) water system has a population of eighty-eight. The average daily demand is 0.017 MGD. Total water use is divided as follows: 93% residential and 7% institutional.

*Moore County (Hyland Hills):* The County owns and operates a water system in the community of Hyland Hills. Hyland Hills is a golf course community located in the southeastern corner of Moore County and is in the Cape Fear River Basin. The Moore County (Hyland Hills) system currently obtains its water from deep wells. In the future, this area will be served by the East Moore Water District. The system has two groundwater wells with a total 12-hour yield of 0.05 MGD. Their finished water storage capacity is 0.003 MG. The system has approximately three miles of water distribution lines. The Moore County (Hyland Hills) water system has a population of 330. The average daily demand is 0.015 MGD. Total water use is divided as follows: 96% residential and

4% commercial. The East Moore Water District will likely serve as a source water supply in the future.

*Moore County (Pinehurst):* The County owns and operates a water system in the Village of Pinehurst. Pinehurst is located in the south/southeast region of Moore County and is in the Lumber and Cape Fear River Basins. The Moore County (Pinehurst) system obtains its water from wells. The system has twenty wells with a total 12-hour yield of 1.69 MGD. Their finished water storage capacity is 2.3 MG. The system has approximately 142 miles of water distribution lines. The Moore County (Pinehurst) water system has a population of 11,624. The average daily demand is 1.84 MGD. Total water use is divided as follows: 83% residential, 7% commercial, and 9% institutional. The Pinehurst system has some issues with hydraulic bottlenecks which limit the transfer of water through Pinehurst.

*Moore County (Robbins):* The County owns and operates a water system in the Town of Robbins. Robbins is located in the north region of Moore County and is in the Deep River Basin. The Moore County (Robbins) water system purchases water from the Town of Robbins water system. The system has approximately two miles of water distribution lines. The Moore County (Robbins) water system has a population of 53. The average daily is 0.011 MGD. Total water use was 100% residential. Moore County is currently asking Montgomery County to review their hydraulic capacity to see if they could push water through Robbins to supply water to the Moore County system. This assistance would be limited, however, since there is only a 12-inch line in the area.

*Moore County (Seven Lakes):* The County owns and operates a water system in the Town of Seven Lakes. Seven Lakes is located in the western region of Moore County and is in the Cape Fear, Deep, and Lumber River Basins. The Moore County (Seven Lakes) system obtains its water from groundwater deep wells as well as purchases from the Moore County (Pinehurst) system. Most of the water used at Seven Lakes comes from this Pinehurst system which has a contractual limit of 0.900 MGD. The system has three wells with a total 12-hour yield of 0.067 MGD. The system has a finished water storage capacity of 0.300 MG. The system has approximately



63 miles of water distribution lines. The Moore County (Seven Lakes) water system has a population of 5,589. The average daily demand is 0.480 MGD. Total water use is divided as follows: 95% residential, 4% commercial, and 1% institutional. The County is currently studying the feasibility of interconnecting with Montgomery County through Candor, although supply would likely be limited to 0.5 MGD.

*Moore County (The Carolina):* The County owns and operates a water system for The Carolina golf course in Whispering Pines. Whispering Pines is located in the south/southeast region of Moore County, just north of Southern Pines, and is in the Cape Fear River Basin. The Moore County (The Carolina) system purchases its water from the Town of Southern Pines water system. The contract with Southern Pines is for up to 0.250 MGD. The system has approximately 3 miles of water distribution lines. The Moore County (The Carolina) water system has a population of twenty-five. The average daily demand is 0.012 MGD. Total water use is 100% residential.

*Moore County (Vass):* The County owns and operates a water system in the Town of Vass. Vass is located in the southeastern corner of Moore County and is in the Cape Fear River Basin. The Moore County (Vass) system obtains its water from East Moore Water District with a contractual limit of 2.0 MGD. The system has a finished water storage capacity of 0.100 MG. The system has approximately fourteen miles of water distribution lines. The Moore County (Vass) water system has a population of 799. The average daily demand is 0.134 MGD. Total water use is divided as follows: 80% residential, 15% commercial, 1% industrial, and 4% institutional. There is an existing 1.5 MGD water plant in Vass that could possibly be rehabilitated into operation. This would likely be at a cost of \$3M, not including the required booster pump upgrade.

*Town of Aberdeen:* The Town of Aberdeen runs its own public water system. Aberdeen is located in southern Moore County and is in the Lumber River Basin. Aberdeen obtains its water from groundwater deep wells as well as purchases from the Town of Southern Pines water system. The system has sixteen wells with a total 12-hour yield of 1.83 MGD. The system has a finished water storage capacity of 1.3

MG. The system has approximately twenty-six miles of water distribution lines. The Aberdeen water system has a population of 4,438. The average daily demand is 0.986 MGD. Total water use is divided as follows: 82% residential, 11% commercial, 2% industrial, and 5% institutional.

*Town of Cameron:* The Town of Cameron runs its own public water system. Cameron is located in southeastern Moore County and is in the Cape Fear River Basin. Cameron obtains its water solely from groundwater deep. The system has five wells with a total 12-hour yield of 0.14 MGD. The system has a finished water storage capacity of 0.100 MG. The system has approximately twelve miles of water distribution lines. The Cameron water system has a population of 480. The average daily demand is 0.033 MGD. Total water use is divided as follows: 89% residential, 10% commercial, and 1% institutional. The Town of Cameron has discussed possibly tying on to East Moore Water District or even the City of Sanford system (which supplies all of Lee County).

*Town of Carthage:* The Town of Carthage runs its own public water system. Carthage is located in central Moore County and is in the Cape Fear River Basin. Carthage obtains its water from a withdrawal in Nicks Creek with a capacity of 1.0 MGD. The system has a finished water storage capacity of 1.372 MG. The system has approximately twenty-five miles of water distribution lines. The Carthage water system has a population of 2,200. The average daily demand is 0.350 MGD. Total water use is divided as follows: 86% residential, 8% commercial, and 6% institutional.

*Foxfire Village:* Foxfire Village runs its own public water system. Foxfire Village is located in southwest Moore County and is in the Lumber River Basin. Foxfire Village obtains its water solely from deep groundwater wells. The system has six wells with a total 12-hour yield of 0.120 MGD. The system has a finished water storage capacity of 0.200 MG. The system has approximately eleven miles of water distribution lines. The Foxfire Village water system has a population of 506. The average daily demand is 0.051 MGD. Total water use is divided as follows: 95% residential, 4% commercial, and 1% institutional.



*Town of Pinebluff:* The Town of Pinebluff runs its own public water system. Pinebluff is located in southern Moore County, just north of Addor, and is in the Lumber River Basin. Pinebluff obtains its water solely from deep groundwater wells. The system has four wells with a total 12-hour yield of 0.580 MGD. The system has a finished water storage capacity of 0.300 MG. The system has approximately twenty miles of water distribution lines. The Pinebluff water system has a population of 979. The average daily demand is 0.099 MGD. Total water use is divided as follows: 98% residential and 2% commercial.

*Town of Robbins:* The Town of Robbins runs its own public water system. Robbins is located in northern Moore County and is in the Cape Fear River Basin. Robbins obtains its water from a contract with Montgomery County, temporarily discontinuing the use of their surface water treatment plant due to the recent loss of a major industry. The system has a finished water storage capacity of 1.200 MG. The system has approximately nineteen miles of water distribution lines. The Robbins water system has a population of 1,226. The average daily demand is 0.263 MGD.

*Town of Southern Pines:* The Town of Southern Pines runs its own public water system and is by far the largest water provider in the county. Southern Pines is located in southern Moore County and is in the Cape Fear River Basin. Southern Pines obtains its water from groundwater wells as well as a withdrawal in Drowning Creek. The system has three wells with a total 12-hour yield of 1.38 MGD, while the surface water plant is permitted at 8.0 MGD. The system has a finished water storage capacity of 5.5 MG. The system has approximately 221 miles of water distribution lines. The Southern Pines water system has a population of 13,826. The average daily demand is 3.178 MGD. Total water use is divided as follows: 86% residential, 12% commercial, and 2% institutional. The town has been plagued by drought conditions and was especially hard hit during 2002. As a result, a large off-line reservoir is planned which will allow the Town to pump to the reservoir all year and give them some additional cushion in the form of water supply when drought conditions strike.

*Town of Taylortown:* The Town of Taylortown runs its own public water system. Taylortown is located in southern Moore County, just north of Pinehurst, and is in the Cape Fear River Basin. Taylortown obtains its water solely from a deep groundwater well. The system has one well with a total 12-hour yield of 0.160 MGD. The system has a finished water storage capacity of 0.475 MG. The system has approximately eighteen miles of water distribution lines. The Taylortown water system has a population of 900. The average daily demand is 0.040 MGD. Total water use is 100% residential.

Table 8. Sewer Collection Systems Tributary to Moore County Waste Water Treatment Plant

Sewer Collection System	Owner	Total Sewer (Inch-miles <sup>2</sup> )	Gravity Sewer (Inch-Miles)	2007 Residential Sewer Customers
Aberdeen	Aberdeen	326.57	304.88	1775
Addor	Moore County	32.44	15.15	25
Camp Mackall	Camp Mackall	45.45	45.45	0
Carthage	Carthage	186.24	95.33	462
Pinehurst (includes Taylortown)	Moore County	1454.41	1324.26	6740
Southern Pines	Southern Pines	861.66	777.53	4548
Taylortown	Moore County	0	0	117
Vass	Moore County	63.49	62	143
Moore County Interceptor	Moore County	557.48	557.48	0
TOTALS		3527.74	3182.08	13810

### b. Wastewater

Moore County owns and operates a regional wastewater collection system that serves the central and southern portions of the county. The wastewater collection system (**Table 8**) is divided into various municipally-owned and county-owned subsystems which collect and transport the wastewater to the regional treatment plant. Table 8 lists the various collection systems in the overall wastewater conveyance system.

Moore County owns and operates the regional wastewater treatment plant, called the Moore County Water Pollution Control Plant. This facility is located approximately five miles south of Aberdeen, immediately east of the Addor Community. The facility is permitted for 6.7 MGD of effluent discharge into Aberdeen Creek approximately 5,000 feet upstream of its confluence with Drowning Creek at the Moore/Richmond County line. The County is currently pursuing an upgrade to 10 MGD for this plant.

The Moore County interceptor system transports wastewater generated by the system's customers to the Moore County Waste Water Treatment Plant. The Moore County interceptor system consists of approximately 16.5 miles of gravity sewer ranging from 10 inches to 48 inches in diameter. The wastewater interceptor is capable of handling up to 32.2 MGD (48-inch pipe at 0.12% slope), which

significantly exceeds the current system flows. The interceptor is a gravity system constructed from the high point at the river basin boundary (between the Lumber River Basin and the Cape Fear River Basin) down grade and parallel with Aberdeen Creek to the Moore County Waste Water Treatment Plant at Addor. It is key that Moore County manage the growth in the interceptor service area to maintain adequate capacity in the gravity sections to convey peak sewer flows.

### c. Solid Waste

There are eleven governments with solid waste management programs in Moore County, including the County; the Towns of Aberdeen, Cameron, Carthage, Pinebluff, Robbins, Southern Pines, Taylortown, and Vass; and the Villages of Pinehurst and Whispering Pines. Residents in Foxfire Village use the County's facilities. A summary of the solid waste programs in the County is provided in the Water, Wastewater and Solid Waste appendix and below.

*Solid Waste Collection.* Moore County operates seven staffed convenience centers for the collection of residential waste and recyclables. The County transfers waste collected at each convenience center to the Uwharrie Environmental - Moore County Transfer Station in Pinehurst.

Each of the County's convenience centers is fenced for security and, so as to limit the number of trips

for transfer vehicles, all but one is equipped with a stationary compactor for residential waste.

Aberdeen, Cameron, Carthage, Pinebluff, Pinehurst, and Robbins each offer weekly residential curbside waste collection. Southern Pines and Whispering Pines each offer weekly residential rear-yard waste collection. Waste is collected twice each week in Aberdeen, Cameron, Pinebluff, Pinehurst, and Whispering Pines. In Aberdeen and Cameron, waste is collected by town staff. Carthage, Pinebluff, Pinehurst, Robbins, Southern Pines, and Whispering Pines each contract with private haulers for waste collection. Taylortown provides a convenience center for residential waste collection. Aberdeen and Cameron use town staff to collect commercial waste.

Most waste collected in Moore County is taken to one of the following facilities:

- The Uwharrie Environmental - Moore County Transfer Station in Pinehurst, which is owned and operated by Republic Services (Uwharrie Environmental) under State Permit No. 63-02T. In FY 2005-06, 57,721 tons of waste were handled at the transfer station.
- The Moore County Construction and Demolition Debris (C&D) Landfill in Aberdeen, which is owned and operated by the County under State Permit No. 63-01.

*Recycling.* Recycling is provided by Moore County at each of its convenience centers. Aberdeen, Southern Pines, and Whispering Pines all have one un-staffed collection site for recyclables. Pinehurst provides curbside collection of recyclables every other week. Cameron, Carthage, Pinebluff, Robbins, and Taylortown do not offer recycling services. Moore County does allow residents of municipalities to use its convenience centers for the drop-off of recyclables.

Additionally, waste collected at the Uwharrie Environmental - Moore County transfer station is sent to the Uwharrie Environmental Material Recovery Facility, where recyclables are separated through mixed-waste processing.

*Special Waste Management.* Moore County collects

used oil, lead acid batteries, tires, and pesticide containers. Other than Southern Pines, which collects used oil, no other municipality provides collection of special wastes.

*Yard Waste Handling.* Yard waste in Cumberland County is collected, and yard waste in Moore County is collected and mulched/composted either at the County's yard waste facility or at facilities in Cameron and Carthage. With the exception of Taylortown, each municipality provides curbside collection of yard waste.

*Solid-Waste Disposal.* Municipal solid waste (MSW) collected at the Uwharrie Environmental - Moore County Transfer Stations is hauled by Uwharrie Environmental to the Uwharrie Environmental Materials Recovery Facility (MRF) in Mt. Gilead (State Permit No. 62-02MRF). After being processed at the Material Recovery Facility, the remaining waste is disposed of in the Uwharrie Regional Landfill (State Permit No. 62-04). The County's hauling and disposal contracts will expire in October 2008; one additional five-year extension is available beyond that time. The Uwharrie Environmental transfer station currently charges a \$36.97/ton tipping fee.

Construction and demolition (C&D) waste is accepted for disposal at Moore County's C&D landfill in Aberdeen. The County currently charges a \$36.53/ton tipping fee for this service. In FY 2005-06, 36,406 tons of waste were disposed of in the landfill. The County currently estimates that it has about seven to fifteen years of remaining capacity at their C&D landfill.

There are also two private land clearing and inert debris (LCID) landfill facilities located in Moore County.

Table 9. Local Water and Sewer Rates (FY 07-08) <sup>1</sup>

	Water Bill for 5,000 Gallons per Month		Sewer Bill for 5,000 Gallons per Month		Operating Ratio
	Local Rate	Comparison Group	Local Rate	Comparison Group	
Town of Robbins	\$28.76	At median	\$33.26	At median	0.79
Town in Aberdeen	\$14.15	Near median	\$15.90	Near median	1.03
Town of Cameron	\$40.00	Far from median	n/a	n/a	0.74
Town of Carthage	\$27.00	At median	\$34.50	At median	1.00
Town of Pinebluff	\$20.80	At median	\$22.56	At median	1.76
Town of Taylortown	\$21.00	At median	\$14.00	Far from median	0.59

1. UNC School of Government Environmental Finance Center. Rates Dashboard Version 2008.04. website - [www.efc.unc.edu](http://www.efc.unc.edu).

#### d. Local Rate Structures

The county's water rates range from a low of \$14.15 to a high of \$40.00 per month. The local sewer rates range from \$14.00 to \$34.50 per month (**Table 9**). The communities with an operating ratio less than one, which may signal a financial concern, include Robbins, Cameron and Taylortown.

Moore County's solid waste program is funded primarily by C&D landfill tipping fees and property tax revenues/general fund. The County's program is not operated as an enterprise fund.<sup>19</sup>

The solid-waste programs for Aberdeen, Cameron, Carthage, Pinebluff, Pinehurst, Robbins, Southern Pines, Taylortown, and Whispering Pines are funded by household fees and/or property tax revenues/general funds.

## 2. Future Needs

#### a. Water and Wastewater

During the above mentioned study, McGill & Associates developed demand and population projections for each system through a 50-year planning period based on information obtained from the NC State Data Center (NCSDC). From this, average daily demands are estimated to increase to

approximately 17.26 MGD, with total maximum demands of approximately 22.62 MGD by the year 2056. The total quantity of water currently available to supply the systems within the county is approximately 15.9 MGD.

Several projects are being discussed at this point, all of which require further study. Water supply at Seven Lakes is critical, especially during drought conditions. Earlier this year, the Division of Water Resources categorized Seven Lakes as a Tier I community, meaning that they were limited to less than 100 days of water and have no emergency supply. The Seven Lakes area of the county is located in all three of the county's river basins. As described above, the State's interbasin transfer laws place a severe restriction on the movement of water between basins, and, in the case of the Seven Lakes area, that sometimes means across the street in several directions. The most likely solution is getting additional water from Montgomery County. There is also the possibility that several large developments in the planning stages may be able to assist Phase II of the East Moore Water District to extend to the Seven Lakes area.

As described above, the Vass area is severely limited in sewer capacity at this time. The County does have a project underway to send the area's sewer to the Moore County Addor plant, but this plant does not have a large excess in capacity even after it's upgraded. There has been talk of perhaps constructing another regional wastewater plant in the Vass area, and this option should be studied further to determine feasibility.

19. An enterprise fund for governmental activities is a self-sustaining cost center that operates in a manner similar to private business operations. Many local governments have shifted solid waste management services from the General Fund to an enterprise fund. This means that local governments have started viewing solid-waste management services as separate cost centers that—because they have their own capital programs and systems of fees and charges, can operate on a stand-alone basis.



## b. Solid Waste

The state measures changes in waste-disposal rates by comparing the current year's per capita waste disposal rate to fiscal year 91-92's per capita rate—which is considered the base rate. (Per capita disposal rates are calculated by dividing the total tonnage of disposed waste by the number of users served.) Negative numbers indicate a decrease in the per capita disposal rate; positive numbers indicate an increase. Waste reduction is a change from the base year, not a change from year to year. The state per capita disposal rate is 1.34 tons per person per year, an increase of 25% from the FY 91-92 base year.

Despite the addition of a few new curbside programs in the state, the overall number of municipal curbside recycling programs has declined in recent years. The recycling industry has evolved dramatically in the past fifteen years, and, unless small and mid-sized municipal governments update their programs to reflect the current state of the industry, it is likely that the trend towards fewer curbside recycling programs will continue. In a properly developed program, each household could potentially generate up to 750 pounds of recyclables per year. North Carolina households are contributing only about 240 pounds of recycling per year to their local recovery programs. It is very clear that improving the breadth of program collection and increasing participation are keys to improving recovery.<sup>20</sup>

## H. Gaps

Meeting projected demand through 2030 will cost the County approximately \$23.5 million for water and \$66.3 million for sewer.<sup>21</sup> The population increase in Moore County as a result of military growth is projected to be about 4,128 people in 2013. This could translate into an additional water and sewer demand of approximately .62 MGD, resulting in an additional capital requirement of \$3.1 million for water and \$6.2 million for sewer. As described above, the County is currently pursuing projects in the form of studies and could use assistance with funding of those efforts. These estimates are based on an

assumed cost of \$5 per gallon for water and \$10 per gallon for sewer. The actual cost of this infrastructure will be dependent on a number of variables, including the specific configuration of each plant; therefore, these estimates should be considered as approximate and should be used only to provide a rough idea of future budget requirements.

Maintaining safe drinking water and environmentally sound sewer services is one of the most important responsibilities of any local government. As it becomes increasingly expensive to provide water and sewer services, local governments will need to balance their obligation to provide these fundamental services at affordable prices against the equally compelling need to manage their programs in a financially sustainable manner. While there are many financial and revenue strategies that are designed with local conditions and objectives in mind, managing water and sewer services inevitably involves asking customers to pay more for the services. Leaders should never forget that the failure to fund these services sufficiently would inevitably expose their communities to health and environmental hazards.

This section describes major financing alternatives available to local governments including bonds, grants and loans, local rates, tap and impact fees, and special assessments.

*General Obligation Bonds.* Private market lenders, who are the primary source of water and sewer financing, account for 70% of the total financing for such projects. Because of low bond ratings, approximately 60% of the state's local governments cannot qualify for most infrastructure lending programs. Cumberland County and the City of Fayetteville, however, have solid ratings. They also have considerably more conservative general-obligation debt ratios (ratios, that is, that are calculated by comparing the governmental entity's total indebtedness with its appraised property valuation and its population) (**Table 10**).<sup>22</sup>

*Revenue Bonds and Installment Financing.* Revenue bonds can be offered publicly with a typical 25-year term. The debt is secured by the net revenues of the

20. North Carolina Solid Waste Management Annual Report July 1, 2006 – June 30, 2007.

21. Water, Sewer and Stormwater Capital Needs 2030, N.C. Rural Center

22. Analysis of Debt at 6-30-2007. Department of State Treasurer, Division of State and Local Government Finance.

Table 10. Analysis of General Obligation Debt

	Ratings		Ratio of Total General Obligations Debt3	
	Moody's	S&P	Property Valuation (%)	Per Capita (\$)
Moore County	A1		0.445 (avg)	458 (avg)
Counties (50,000-99,999 pop.)			0.942 (avg)	716 (avg)
Town of Robbins	n/a	n/a	n/a	n/a
Municipalities (1,000-2,499 pop.)	n/a	n/a	0.169 (avg)	170 (avg)
Town of Aberdeen	n/a	n/a	0.257 (avg)	244 (avg)
Municipalities (2,500-4,999 pop.)	n/a	n/a	0.122 (avg)	123 (avg)
Town of Cameron	n/a	n/a	n/a	n/a
Municipalities (Under 500 pop.)	n/a	n/a	0.170 (avg)	202 (avg)
Town of Carthage	n/a	n/a	n/a	n/a
Municipalities (1,000-2,499 pop.)	n/a	n/a	0.169 (avg)	170 (avg)
Town of Pinebluff	n/a	n/a	0.069 (avg)	41 (avg)
Municipalities (1,000-2,499 pop.)	n/a	n/a	0.169 (avg)	170 (avg)
Town of Taylortown	n/a	n/a	n/a	n/a
Municipalities (500-999 pop.)	n/a	n/a	0.082 (avg)	124 (avg)

project, and no voter approval is required. However, specific financial tests must be met, and specific covenants are required. Alternatively, installment financing can be provided without voter approval with a typical 20-year term. The security for installment financing is a pledge to appropriate funding for debt service and a lien on the financed asset. However, there are challenges putting liens on utility assets.

*Grants and Loans.* The federal role in financing water and wastewater projects has declined in recent years. The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Agriculture (USDA) have significantly reduced the grant funds available for water and sewer improvements.<sup>23</sup> Nonetheless, several sources of potential financing for water and wastewater projects remain, particularly at the state level. The following agencies have grant and/or loan programs available. Specific program guidelines and contact information are provided in the Appendix.

- Appalachian Regional Commission
- Economic Development Administration, U.S. Department of Commerce
- U.S. Department of Agriculture
- N.C. Department of Environment and Natural Resources, Division of Water Quality
- N.C. Department of Environment and Natural Resources, Public Water Supply Section
- N.C. Department of Commerce, Division of Community Assistance
- N.C. Department of Commerce, Commerce Finance Center
- N.C. Clean Water Management Trust Fund
- N.C. Rural Economic Development Center

*Tap Fees, Impact Fees, and Special Assessments.* In general, utilities charge three types of fees in North Carolina: tap fees, impact fees, and special assessments. Tap fees are designed to recover all or a portion of the cost (materials and labor) of water or sewer service line installation; impact fees are associated with system-capacity development. Because individual utilities have great flexibility in

23. N.C. Rural Economic Development Center, Water 2030 Executive Summary.



setting tap and impact fees, these fees can vary widely from one locale to another. Special assessments, on the other hand, are strictly defined in the NC General Statutes and may only be assessed by utilities (municipalities, counties, and authorities) under specific circumstances defined by the authorizing statute (§162A-216, §153A-185 and §162A-6, respectively)<sup>24</sup>. Refer to the Water, Wastewater, and Solid Waste appendix for a comparison of fees across the state.

#### **a. Solid Waste**

The increase in solid waste resulting from the projected population increase is expected to have some impact on county and municipal solid waste programs as well as the program at Fort Bragg. It is likely, however, that these impacts can be handled by existing facilities and practices. Nonetheless, the city's recent recycling efforts should be applauded, and other municipalities in the county should consider implementing additional recycling programs. Available funding includes:

Community Waste Reduction and Recycling Grants are a standard annual grant cycle that the State Division of Pollution Prevention and Environmental Assistance (DPPEA) offers to local government and non-profit recycling programs to expand and improve community recycling efforts.

Business Recycling Grants, also offered by DPPEA, are designed to help businesses afford or leverage a critical capital expenditure and thereby expand their material-handling capacity. These expansions, in turn, translate into new market opportunities for local government recycling programs and for waste generators of all kinds.

The State's Recycle Guys and RE3 Outreach Campaigns increase public participation in recycling.

In addition to the above opportunities, North Carolina offers a tax exemption on equipment and facilities used exclusively for recycling and resource recovery. The tax program also includes special tax treatment for the corporate state income tax and the franchise tax on domestic and foreign corporations. The N.C. Division of Waste Management administers the [Tax Certification Program](#).

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24. One-time Fees for Residential Water and Sewer Connections in North Carolina. A publication of the Environmental Finance Center at the University of North Carolina at Chapel Hill, Report by: Andrew Westbrook, [westbrok@sog.unc.edu](mailto:westbrok@sog.unc.edu). 3/27/06.

## I. Recommended Actions

### **Important Action 1: Proactively plan water and sewer projects in conjunction with development activities.**

**Description:** Because water and sewer services are such crucial components of any community's utility infrastructure, it is important that planning for their construction and maintenance be done with the utmost care and professionalism. The City of Fayetteville/Cumberland County 2030 Vision Plan recommends several principles that planners in general, and those in the Fort Bragg region in particular, should observe. General principles include:

- The placement of water and sewer lines should determine where development is done, rather than the other way around.
- Development density should be determined by the availability of infrastructure.
- Generally, infrastructure with excess capacity should be utilized first before additional monies are spent to install and maintain new infrastructure elsewhere.
- Adequate utilities infrastructure (water supply, sewage collection and treatment capacity, stormwater management, etc.) must be in place before the new development it serves is occupied.

**Responsible Parties:** Municipal and county public works and planning directors, local elected officials, and planning commissions should work collaboratively to share best practices and implement new policies as necessary. The BRAC Regional Task Force could facilitate such regional collaboration.

### **Important Action 2: Coordinate local water and wastewater planning with the Fort Bragg Garrison.**

**Description:** New infrastructure should not be placed in areas where it would encourage development incompatible with the mission of the Fort Bragg/Pope military complex. Fort Bragg should be included in all major local infrastructure planning. This will be especially important as Fort Bragg and surrounding local communities seek mutually beneficial opportunities to enhance services.

**Responsible Parties:** Municipal and county public works and planning directors, local elected officials, and planning commissions should work collaboratively to share best practices and implement new policies as necessary. The BRAC Regional Task Force could facilitate such regional collaboration.

**Important Action 3: Seek special funding from the North Carolina Legislature for capital improvements.**

**Description:** As part of its effort to meet anticipated water and sewer capital needs, the county should give its support to State of North Carolina legislation that would address the utility needs of all the state's BRAC-impacted communities. This legislation would create a fund, to be administered by the N.C. Rural Economic Development Center, designed to mitigate the critical present and future water and sewer problems facing these communities. Federal and local matching funds should also be pursued.

**Responsible Parties:** Local and state elected officials and the BRAC Regional Task Force could work together to advocate the introduction and passage of new legislation.

**Important Action 4: Update financial plans for capital water and sewer improvements.**

**Description:** The county and its municipalities should ensure that their estimates regarding both the quantity and the condition of their physical assets are up to date and accurate. It is important that local governments have reliable estimates as to how many and what kind of new water and wastewater facilities will be needed over the next five years. One set of estimates will target those new water and wastewater facilities that are used to expand capacity or address environmental health concerns. A separate set of estimates will be needed for those assets used for rehabilitation or for the replacement of existing infrastructure.

Careful consideration should be given to the identification of funding sources and to determining what percentage of total funding will come from each source (grants, debt, capital reserves, user rates, tap and impact fees, and special assessments). Local Capital Improvement Plans should be updated as necessary.

**Responsible Parties:** Municipal and county managers and local elected officials should work collaboratively to share best practices and identify funding sources as necessary.

**Important Action 5: Work collaboratively with regional suppliers of water and sewer services.**

**Description:** Counties and local governments in the region should collaborate in the attempt to identify and better understand the resources available to them in the region. Together the region's local governments should promote a regional approach to ensuring water quality (and thus the public health) and should support one another, where feasible, by buying and selling water and sewer services across municipal and county lines.

**Responsible Parties:** Municipal and county managers, local elected officials and other clean water stakeholders should work collaboratively to share best practices and implement new regional policies as necessary. The BRAC Regional Task Force could facilitate such regional collaboration.

## J. Information and Communication Technology

High-speed Internet access is available for purchase at 82.9% of Moore County's households, which is the lowest rate in the seven-county Fort Bragg region and is lower than the state average of 83.54%. Access varies widely across the county. Moore County has been working to equip all public safety and emergency response personnel to be part of the state's VIPER first-response communication network. An additional 593 radios having a total cost of \$1,927,250 are needed to complete the project. High-speed connectivity to all K-12 schools is in place. Increased use of web-based instruction and distance education is going to require that school construction codes be updated to accommodate additional computers. Annual education and government operations budgets need to reflect regular hardware and software updates as well as increased costs for network support and maintenance. In the higher-education arena, relevant degree programs should be added and expanded to increase throughput of the certified graduates needed to support the region's growing demand for network specialists. There are three public videoconferencing facilities in the Pinehurst area that support distance education and training in a group setting. Outlying areas of the county lack ready access to such resources. Moore County's otherwise well-designed website could be more interactive and could better address the specific information needs of private and corporate newcomers.

## K. Current Conditions

### a. Internet Access

Among the seven counties that comprise the Tier I Fort Bragg region, Moore County has the lowest percentage of citizens with access to broadband. Broadband Internet access is available for purchase at

only 82.90% of Moore County households, slightly lower than the North Carolina composite figure of 83.54%. This figure includes cable and DSL-based access, as self-reported by the provider companies (**Table 11**). The ways that providers define service coverage are not wholly reliable, however, which means that the composite figure may not reflect the actual percentage of households that can obtain broadband access. For example, cable companies designate service areas that are identified by zip codes as "covered," when in fact all locations within a given zip code may not be served by the cable companies. Thus, the 82.90% composite figure undoubtedly overstates the level of access available in large portions of the county.

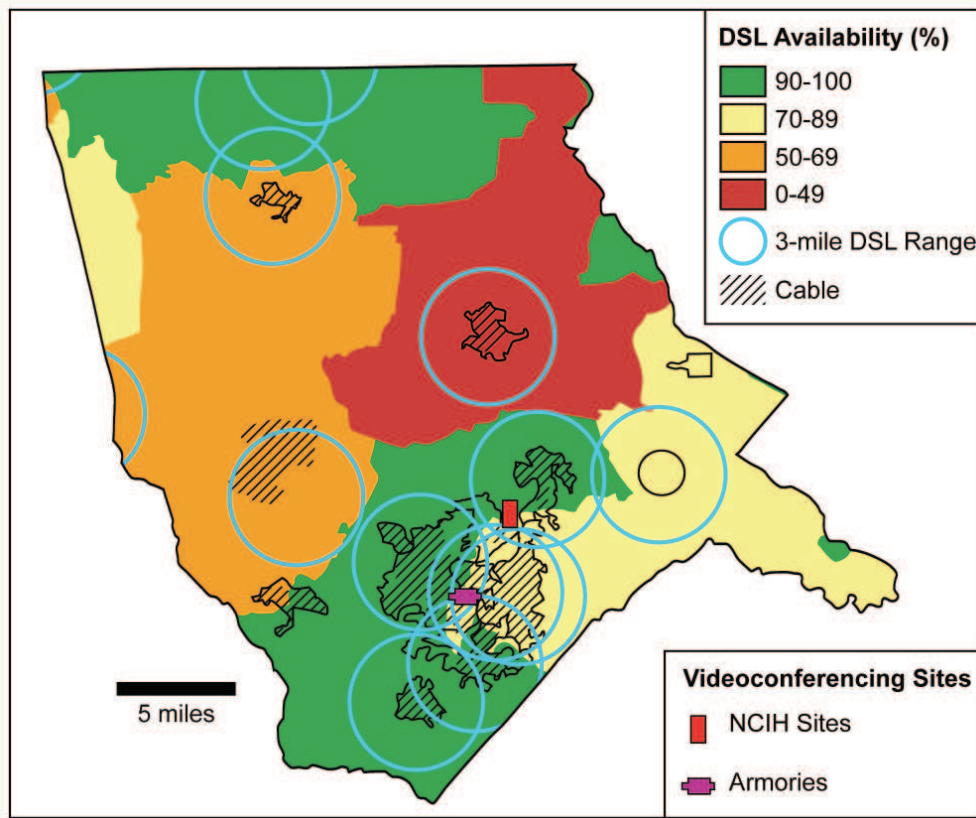
Another factor that compromises existing coverage estimates is the significant overlap between the areas served by cable-modem and those having DSL-based services. Removing the cable-served locations from the map shown in **Figure 11** would not significantly enlarge the portion of the county that does not have adequate service. This means that in Moore County there may be significant overlap between areas served by cable-modem and by DSL-based services.

The extent of Internet availability for Moore County is shown in Figure 11. As this map indicates, access varies widely according to specific location. Broadband access exceeds 90% in the northern- and southern-most portions of western Moore County but is at undesirable levels elsewhere. The situation in the central portion of the county and the area closest to Fort Bragg is quite different; a large swath that bisects the county and includes the county seat in Carthage has connectivity access rates in the two lowest access categories. Projections made in other sections of this report suggest that there is strong potential for growth along the eastern portion of Moore County, but the lack of adequate ICT infrastructure in this area is likely to impede development in this area.

Table 11. High-speed Internet Access Providers Serving Moore County

Cable	Carolina Cable Partners, Charter Communications, and Time Warner
Telcos	Embarq, Randolph Telephone Membership Corporation, and Windstream
Satellite	Moore County customers with a clear view of the southern sky have access to Direcway & Starband high-speed Internet service.
Wireless	Broadlink Wireless Company and Velocity Broadband

Figure 11. Moore County DSL and Cable Modem Service



In addition to localized problems of inadequate access, there is the more generalized issue of inadequate speed and bandwidth. Broadband access in Moore County is largely accomplished through cable modem and DSL-level access speeds. The speeds and bandwidth supported by these types of technologies will be increasingly inadequate as a growing number of voice, data, and video applications use Internet Protocols (IP) for service delivery. Health, education, and government sectors are just beginning to tap the benefits of ICT-driven transformation, even as new ICT technologies—such as Radio Frequency Identification (RFID), wireless broadband, and voice recognition—begin to drive new applications. The result is that, as acceptable transmission speeds ratchet up, broadband standards are rising.<sup>25</sup>

25. Acceptable transmission speeds are expected to rise from the currently recommended minimum of 384 kbps to an anticipated minimum need at home and at businesses for 1.5 mbps symmetrical (up and down). (FCC Order on Broadband, issued March 19, 2008)

#### b. Sector-Specific Connectivity Issues

Efforts already underway in Moore County highlight the need to make ICT and universal broadband access a cornerstone of the County's economic and community development plans. These efforts are described below.

*Public Safety:* Moore County is working to fully equip all its public safety and emergency-response personnel to be part of the Voice Interoperability Plan for Emergency Responders (VIPER) first-responder communication network. Partial implementation of this network, which is managed by the State Highway Patrol, has been funded through grants made to North Carolina by the U.S. Homeland Security Agency. A combination of local and federal funds is expected to cover the costs of fully implementing this program. At present one VIPER transmission tower—located at Carthage—is on the air and operational. An additional 593 radios with a total cost of \$1,927,250 are needed to complete the Moore County VIPER network. **Table 12** indicates the number of radios



Table 12. VIPER Implementation Status-Emergency Services Radio Requirement for Moore County

Agency	Number of Radios
Law Enforcement (1 Per Sworn + 1 Per 1/3 Civilian not VIPER Compatible)	189
Fire Department not currently VIPER Compatible	332
Rescue Squad not currently VIPER Compatible	72
TOTAL Radios for Emergency Responders	593

required by specific sectors of Moore County’s first responders.<sup>26</sup>

*Education:* The Moore County school system, like school systems nationwide, is facing difficult challenges arising from increased student populations, inadequate school infrastructure, increasing use of technology in the development and delivery of instructional content, and the need to support “anytime, anywhere” instruction through distance-learning programs. Moore County already has a rapidly growing demand for broadband Internet access to support the educational and training needs of students in K-12, professional development, and training programs. Several existing statewide initiatives will significantly improve the network through which web-based resources are delivered to the county’s schools.<sup>27</sup> Access to these programs will require the availability of robust high-speed connectivity and adequate videoconferencing facilities.

*K-12 Schools:* Connectivity to all public schools that are elements of the Moore County Local Education Agency (LEA) is fully funded by a combination of federal e-Rate dollars and the N.C. School Connectivity Initiative. Time Warner

Communications provides fiber-based service to the LEA Central Office. A Wide-Area Network (WAN) connects all schools in the system to the LEA at speeds up to 100 Mbps. Through the LEA, all schools are linked to the North Carolina Research and Education Network (NCREN)-managed statewide education network. This network links schools to all of the state’s on-line education resources, to the public Internet, and to the higher level Internet-2 research network. At this point, the County’s primary responsibility for ensuring that schools have on-going access to these resources consists of regular and timely filing of its annual e-Rate application (please refer to the Information and Communication Technology appendix).

*Hardware and Software:* Establishing connectivity is only one of the ICT issues facing public schools in Moore County. There is a continual need for upgrading of the hardware and software that is required by the BETA, Earn and Learn, Learn NC, and Impact projects. Even End-of-the-Year testing requires up-to-date computers and software. Schools cannot just use donated or other outdated equipment and software but must make ICT equipment a fixture in their annual budgets.

*Impact of Connectivity on School Infrastructure:* The need for enhanced access affects other areas of county school planning. Crosscutting changes in the construction codes for schools and other public-sector buildings are required to ensure that these codes support the wiring and HVAC needs of additional ICT equipment. During a recent BRAC ICT focus group meeting, for example, representatives of the region’s public schools cited the lack of sufficient electrical outlets in classrooms as a serious challenge to delivering web-assisted instruction.

26. More information about the VIPER program is available at <http://www.nccrimecontrol.org/Index2.cfm?a=000001,001148>

27. Web-based resources available to the county’s schools include distance-learning programs that originate with the military and National Guard and are designed for their personnel; implementation of the Business Education Technology Alliance (BETA) study and state investment in regional education networks; implementation of the N.C. School Connectivity Initiative to support K-20 virtual-learning programs and the Initiative’s requirements for the state’s schools and connectivity to the home; the N.C. School of Science and Mathematics Distance- Learning courses; NC Wise; AMDG; OSU; North Carolina Virtual Public Schools; the Learn and Earn Initiative’s requirement for online college courses; Two-plus-Two programs that integrate community college curricula with university degree programs; UNC-Greensboro iSchool courses; the UNC Tomorrow program; and even the pioneering web academies.

*Impact of Connectivity on School Human Resource Needs:* A shortage of skilled network-management technicians may emerge as one of the most critical impediments to meeting the demands of growth in Moore County and the region. Additional ICT personnel at the professional and certificate levels will be needed to support more stringent requirements for ICT infrastructure in schools and other public settings. Schools in the Fort Bragg region were surveyed regarding the numbers and types of ICT support personnel they employed. Results varied widely and did not allow for a qualitative statement of the actual levels of training or expertise achieved by the ICT technicians in the various counties. The data are none-the-less revealing. Each ICT technician in Moore County serves an average of approximately three schools, giving Moore County one of the three lowest ratios in the Fort Bragg region. Another positive is that all eight of Moore's school ICT staff report being certified in the LAN/WAN technology that serves as the backbone that connects each school through the central office to the public Internet and state education networks. Although these statistics compare well with those reported by other Tier I counties, more and better-certified technical-support personnel are needed to manage the growing ICT needs of Moore County schools. This need should be factored into plans for expanding ICT-relevant programs and degree offerings at the area's community colleges and universities.

Proximity to the tech-intensive Research Triangle Park creates special challenges for the Fort Bragg region in terms of attracting and keeping highly trained ICT personnel. Both instructors and graduates of computer and network training programs are frequently drawn to more lucrative employment opportunities in the RTP region.

*Higher Education / Adult Learning:* Moore County is served by Sandhills Community College, which provides degrees and certification programs that help prepare the skilled technicians and professionals needed to meet the growing demand for ICT services in the county and the region. Training and educational opportunities are augmented by strong programs at Fayetteville Technical Community College and at other colleges and universities in the region. The issue is one of throughput—more

graduates are needed. Course offerings, degree programs, and the administrative contacts for each of the county's higher education institutions are listed in the Information and Communication Technology appendix. Similar data for other institutions in the region are also available the appendix.

*Infrastructure Issues:* Videoconferencing facilities efficiently deliver distance-education programs to multiple students. Such facilities are particularly important in regions where they serve to support the increasing training needs of military and National Guard personnel. Currently, there are three videoconferencing facilities available to support education and training in Moore County; they are located in the Pinehurst area at the Sandhills Community College, at an area high school, and at the National Guard Armory. The National Guard supports two controlled-access networks (Guard Net II and Guard Net 132) that can be accessed at the armory. Guardsmen may also use the videoconferencing facility to take distance-education training available over the public Internet.

*Government:* Movement of government services to an electronic platform ("e-government") allows for cost-effective delivery, improved responsiveness, and increased transparency. E-government is proving to be particularly important in that it allows military personnel to access local government services while deployed. The pending military-related growth is expected to significantly impact the demand for government services.

Moore County has made significant strides in developing a website that is useful to citizens as well as businesses. It has also developed some useful links and content that are relevant to both newcomers and relocating military personnel. Further enhancements are recommended.

The County's e-government website has been evaluated on the basis of content and usability against best practice models in Northwest Florida (<http://www.welcometonorthwestflorida.com/index1.html>) and Havelock, NC, (<http://www.cityofhavelock.com/>). Results of these analyses are summarized in **Table 13**. Note that the absence of a newcomers' guide and links to properties for sale detracts significantly from

Table 13. Moore County Website Analysis

Website Address	www.moorecountync.gov
Preliminary Questions	Observations
Links to Local Government?	YES
Links to BRAC-RTF?	NO
General Items	Observations
Website Appearance	Professional appearance
Usability	Easy to navigate and interactive; very informative
Site Structure	Some pages navigate away from the main site and do not lead you back (i.e. Elections page, Parks and Recreation page)
Audio/Visual Capabilities	NONE
External Web links	Links to local, state, and federal information
Contact Information	Contact information is not easy to find
Employee Directory	Complete directory of county employees
Calendar	NONE
Searchable Databases	Search and retrieve Register of Deeds information
Forms, Applications, & Permits	Downloadable Tax Forms
Scheduling System	NONE
Transactional Capabilities	Online tax payment
BRAC Information	No BRAC Information
GIS	GIS
Newcomer's Guide	NONE
Listing of Property for Sale	Tax Foreclosure Property Listings
Tax Information	Tax information
Employment Opportunities	Downloadable employment application
Library Link	Link to library website
Website's Capacity to Facilitate Citizen Involvement	NONE
Feedback Form	NONE
Alert Mechanisms	NONE
Translation of Content	NONE
Intranet	Employee Intranet
Content Copyright	No copyright information
Frequency of Updates	Does not have a last-updated date or a way to contact webmaster in case of incorrect information

the usefulness of the site to incoming residents and businesses. More specifically, the absence of a link to the BRAC Regional Task Force website and to related sites with information that targets incoming military personal weakens the effectiveness of the website as an economic development tool.

While smaller towns and communities would benefit from having an attractive website populated with current content, most of them lack the means of

developing and maintaining such a site. Montgomery County provides a model that Moore might consider. Montgomery provides a common template that its smaller municipalities can populate with current information, and the County then maintains the site for the municipalities. This approach leverages ICT resources to better serve all of its citizens and to support balanced growth across the county.

*Impact Of Connectivity On County-Government*

*Human-Resource Needs:* A shortage of skilled network management technicians may emerge as one of the most critical impediments to meeting growth demands in Moore County and the region. Additional ICT personnel at the professional and certificate level will be needed to support the growing number of web-based government services.

Information and communication technologies (ICT), especially those supporting high-speed broadband Internet use, are becoming increasingly critical to local, state, and national economic and community development, with real and measurable impacts in employment, the number of businesses overall, and the number of businesses in ICT-intensive sectors. ICT will be particularly important in Moore County as it adapts to changes caused by military-related growth. Many of the military personnel being transferred to Fort Bragg are technologically adept and will expect to have immediate and sophisticated access to ICT functions such as e-government, e-learning, e-health, and e-commerce. If they are to establish immediate professional and personal connections with the community, these personnel need access to a high-speed, broadband Internet connection, both on- and off-base. As bandwidth needs increase for base operations, new applications will continue to be developed and these will create further connectivity challenges for the region.

As part of its overall effort to support the incoming FORSCOM and US Army Reserve Command (USARC) and to sustain the incumbent military units as a vital economic engine for the region, Moore County would greatly benefit from upgrading its telecommunications capacity. The County's ability to attract and support a diverse and growing economy beyond the military will also be inextricably tied to the quality, speed, and ubiquity of high-speed broadband Internet connectivity.

The level of broadband access that will be needed to accommodate the area's military-related growth is suggested by the results of a November, 2007 survey conducted among FORSCOM personnel in the Atlanta region. Ninety-seven percent of the respondents have and use broadband access at home. This percentage is higher than the percentage of home

Table 14. Routine uses of the Internet at home by FORSCOM personnel and their families

Check mail	98%
Educational (research, course, or Army on-line training)	52%
General Information searches (news, weather, sports)	86%
Work, professional information searches (government, business)	72%
Pay utility bills	74%
Pay taxes	33%
Search for medical information	73%
Do job-related tasks	43%
Search for jobs	47%
Commercial activities (shop, pay bills, etc.)	83%

Internet connections available in Moore County. Sixty-one percent of the FORSCOM personnel use DSL to access the Internet, 36% use cable, and less than 4% rely on dial-up modem connections. As shown in **Table 14**, the survey respondents and their families use the Internet at home for a wide range of tasks. It is highly likely, therefore, that the influx of FORSCOM personnel will increase the demand for high-quality broadband availability and web-based services in Moore County.

## **1. Gaps**

This assessment revealed several specific ICT-related gaps that need additional attention.

**Internet Access:** Among the seven counties that comprise the Tier I Fort Bragg region, Moore County has the lowest percentage of citizens with access to broadband. Broadband Internet access is available for purchase at only 82.90% of Moore County households, slightly lower than the North Carolina composite figure of 83.54%.

**Public Safety:** At present one VIPER transmission tower is on the air and operational. An additional 593 radios are needed to complete the Moore County VIPER network. This is a critical missing component in the regional emergency preparedness strategy.

**Web Presence:** While smaller towns and communities would benefit from having an attractive website populated with current content, most of them lack the means to develop and maintain such a site. Montgomery County provides a model that Moore might consider. Montgomery provides a common template that its smaller municipalities can populate with current information, and the county then maintains the site for the municipalities. This approach leverages ICT resources to better serve all of its citizens and to support balanced growth across the county.

## L. Recommended Actions

### **Important Action 1: Improve ICT infrastructure throughout the county to have high-speed access available at 95% of households.**

***Description:*** Updated and new network technology needs to be implemented in underserved areas of the county to make high-speed access (defined as >200 kilobits per second) available to 95% of households.

***Responsible Parties:*** A partnership of public (federal, state, and local) and private (corporate and foundation) organizations will be necessary to meet this goal.

### **Critical Action 2: Fully equip public safety and emergency personnel to participate in North Carolina's VIPER first-responder network.**

***Description:*** The Voice Interoperability Plan for Emergency Responders (VIPER) System being implemented by the NC Highway Patrol will enable public safety officials at all levels to communicate directly with one another over a secure and reliable network without having to relay messages through a communications center. The value of this capability in times of emergency is becoming more important as the influx of military personnel into the Fort Bragg region significantly raises the threat profile of the region. Moore County can reach compliance with the new VIPER standard with the purchase of 593 communications radios.

***Responsible Parties:*** Local, state and federal government partnering to fully implement and equip the network. A request for federal support to equip the Fort Bragg region has been developed by the e-NC Authority for the BRAC Regional Task Force; prospects for federal funding are not certain at this time.

### **Important Action 3: Participate in formation of Regional K-20 Education Connectivity Task Force and Planning Group.**

***Description:*** Strong potential exists to achieve greater returns on investment by utilizing regional strategies for developing and supporting the K-20 school connectivity infrastructure, by sponsoring professional development opportunities in instructional technology, and by increasing throughput of certified and trained network and communications specialists from higher-education and technical training programs in the region.

***Responsible Parties:*** Leaders from county government and education leaders from public and private schools K-16 in the Fort Bragg region, in collaboration with state BETA and e-learning commission



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**Important Action 4: Make connectivity a strategic focus for the county and a springboard for regional planning and economic and community development efforts.**

*Description:* Moore County should partner with counties in the region to develop a regional ICT Council comprised of a Chief Information/Technology Officer from each county in the Fort Bragg region and Fort Bragg to guide development and use of connectivity. Outcomes will include collaborative learning, cost efficiencies realized through joint purchasing agreements and regional software licenses, and more competitive bids for federal and state program support.

*Responsible Parties:* CIOs/CTOs for each county and Fort Bragg are in the best position to lead this effort.

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**Important Action 5: Champion effort to define and establish a Regional Health ICT Network.**

*Description:* Moore County should work with the N.C. Telemedicine Network to extend to the region efforts funded by the Federal Communications Commission to extend connectivity and champion their use of the network by appropriate health and medical institutions, including the public health department and public and private health clinics.

*Responsible Parties:* County government and health leaders in collaboration with the N.C. Telemedicine Network, the e-NC Authority, and NCHICA

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**Important Action 6: Establish Moore County as a best-practice e-government model.**

*Description:* Moore County should re-engineer its website to best-practice status for delivering to private and corporate citizens information and government services, and for extending to municipalities in the county electronic platforms, hosting services, and training needed to make Moore an e-county of e-communities.

*Responsible Parties:* Moore County CIO/CTO, local government IT directors, the e-NC Authority, the N.C. League of Municipalities, and the Center for Public Technology at the UNC School of Government at UNC-CH.

## M. Health Care

The expansion of Fort Bragg will have an impact on Moore County second only to its effect on Cumberland County. Moore County's health care services are prepared to handle the county's projected population growth; however, because FirstHealth Moore Regional also serves as a regional referral center, it is likely that growth in the surrounding counties will also increase the demand for Moore County health services. It is important that the county's regional services development plan addresses this contingency.

### 1. Current Conditions

Moore County serves as a referral center for the Fort Bragg Region. In particular, counties to the west of Moore County depend on FirstHealth Moore Regional and its physicians to provide medical and surgical specialty services. FirstHealth Moore Regional also operates one of the two inpatient rehabilitation facilities and one of the largest psychiatric and substance abuse units in the region.

#### a. Health Care Provider Supply

Approximately 144 full-time-equivalent health care providers—including 52.7 medical specialists, 35.1 surgical specialists, 48.1 primary care providers, and 8.3 behavioral health providers—practice in Moore County. In addition, fifty-two dentists practice in Moore County, giving the County one of the highest dentist-to-population ratios in the state. Moore County also serves as a referral center for many inpatient services in the region.

Where physician recruitment is concerned, Moore County has several advantages that other counties in the Fort Bragg region lack. Chief among these is the county's attractive payor mix. In fiscal year 2007, only 6,005 Moore County residents were enrolled in TRICARE (as opposed, for example, to Cumberland County, where 118,707 such patients were enrolled). Because they are not overwhelmed with TRICARE patients, Moore County physicians are often willing to help Cumberland County providers with some of their TRICARE patients. The percentage of Moore County residents having Medicare and commercial

Table 15. Payor mix at FirstHealth Moore Regional

Payor	Percent of Patient Days
Commercial	18.8%
Medicaid	8.4%
Medicare	60.7%
Private/Self Pay	9.8%
Other Government/ TRICARE	2.3%

insurance coverage is higher than that of many other area counties. For reasons like these, physicians are likely to consider it more profitable to practice in Moore County than in some other counties in the region. **Table 15** shows the medical center's payor mix for inpatient services (as reflected in FirstHealth Moore Regional's 2008 Hospital License Renewal Application).

Another factor that makes Moore County attractive to many physicians is its high quality of life, as manifested in such features as the county's world-class golfing opportunities. Both physicians and their spouses find the quality of life in Moore County appealing and appreciate not having to battle the image concerns characteristic of counties in closer proximity to the base.

#### b. Inpatient Bed Supply

FirstHealth Moore Regional (FHMR)—a 297-bed,<sup>28</sup> acute-care hospital in Moore County, is the flagship hospital of the FirstHealth of the Carolinas system. FHMR serves as a regional referral center for many of the counties in the Fort Bragg Region. In fiscal year 2007, discharges from the region accounted for 93% of FHMR's total discharges (**Table 16**).

The bulk of inpatient days of care at FHMR are medical/surgical<sup>29</sup> patient days. The medical/surgical beds at FHMR operated at 81% occupancy in FY 2007. FHMR has capacity to increase its pediatric, obstetrics, ICU, and neonatal level II volume. These service lines may represent opportunities for alliances with Cumberland County providers.

28. Acute care beds only.

29. Includes general medical/surgical and oncology beds.

Table 16. Percent of total discharges at FirstHealth Moore Regional in 2007 from Counties in the Fort Bragg region

County	Discharges	% of Total FHMR Discharges
Moore	9,895	45.7%
Richmond	2,262	10.5%
Montgomery	1,721	8.0%
Hoke	1,438	6.6%
Lee	1,311	6.1%
Robeson	1,241	5.7%
Scotland	925	4.3%
Harnett	696	3.2%
Cumberland	579	2.7%
Sampson	35	0.2%
Bladen	18	0.1%

FHMR also operates twenty-five inpatient rehabilitation beds to complement the FirstHealth Centers for Rehabilitation. This program has additional capacity to treat patients from Cumberland County.

### c. Comprehensive Outpatient Services

Although there are fewer outpatient facilities in Moore County than in Cumberland County, Moore County still serves as a smaller regional “hub” of outpatient services for the region. As shown in **Table 17** below, Moore County is home to one diagnostic imaging center, two ambulatory surgery centers, and one urgent care facility.

Table 17. Outpatient facilities in Moore County

Facility Name	Location
Diagnostic Imaging	
Southern Pines Diagnostic Imaging Center	Southern Pines
Ambulatory Surgery Centers	
HEALTHSOUTH Surgery Center of Southern Pines	Southern Pines
Surgery Center of Pinehurst, LLC	Pinehurst
Urgent Care Centers	
Sandhills Urgent Care	Southern Pines

### d. Home Health

Home-health services are provided in the home to individuals who are confined to the home. Such services are offered to individuals who do not need hospitalization but who need nursing services or therapy, medical supplies, or special outpatient services. Currently there is no need for additional home health agencies in Moore County; the military expansion at Fort Bragg is expected to have a minimal impact on the short-term need for such services.

The following home health-agencies serve Moore County:

- FirstHealth Home Care
- Liberty Home Care

### e. Emergency Medical Services

Emergency Medical Services in Moore County are owned by Moore County and FirstHealth of the Carolinas. Information about this EMS service is provided in the Public Safety portion of this report.

### f. Behavioral Health

In Moore County, behavioral health services are managed by the Sandhills Center for MH/DD/SAS.<sup>30</sup> The Sandhills Center manages and, in some cases provides, the following services:

- Outpatient therapy
- Psychiatric services
- Case management
- Residential services
- Day services
- Twenty-four-hour inpatient services
- Periodic services
- Emergency services

Access to these services is provided through the Moore County access unit, located at the corner of Memorial Drive and Highway 211 in Pinehurst.

FHMR currently operates a twenty-four-bed adult inpatient psychiatric unit and is in the process of

30. MH/DD/SAS, a common abbreviation used by state agencies, stands for Mental Health/Developmental Disabilities/Substance Abuse Services.

developing twelve additional beds. In addition, the hospital provides thirty-nine adult detoxification and treatment beds. FirstHealth provides treatment programs for:

- Depression
- Post-traumatic stress/stress management
- Chronic illness
- Medication management
- ADD and ADHD
- Chemical dependency
- Family generational issues
- Grief
- Eating disorders

## 2. Future Needs and Gaps

Moore County's greatest need is for additional primary-care physicians. Although there are no expected needs in other physician specialties or for licensed beds, the county should continue to monitor the needs of the greater region it supports.

### a. Physician Needs

Modeling done for this report<sup>31</sup> indicates that there are more than enough medical specialists, surgical specialists, behavioral health professionals, and dentists to meet the future needs of the Moore County

population (**Figure 12**). This is not true, however, of the county's supply of additional primary-care providers.

The apparent surplus of specialty physicians in Moore County is a reflection of FHMR's status as a regional referral center. Although there are more than enough physicians to meet the needs of county residents, these physicians also serve patients from surrounding counties that do not have an adequate supply of physician specialists. Further, some surrounding counties do not have a hospital with the capabilities necessary for supporting the addition of certain specialties.

The shortage of primary care providers is particularly acute among family and internal medicine practitioners. Although some primary-care functions can be (and, in fact, are now being) performed by medical specialists, such as cardiologists and nephrologists, family-care physicians will be needed to support the younger population moving to Moore County as a result of the expansion of Fort Bragg.

31. The HPS Physician Demand Model is a proprietary model used to estimate the health care provider needs of a specific population. Additional information regarding the assumptions used in this model is provided in Attachment

Figure 12. Projected number of health care professional needed in Moore County in 2013 compared to the estimated supply

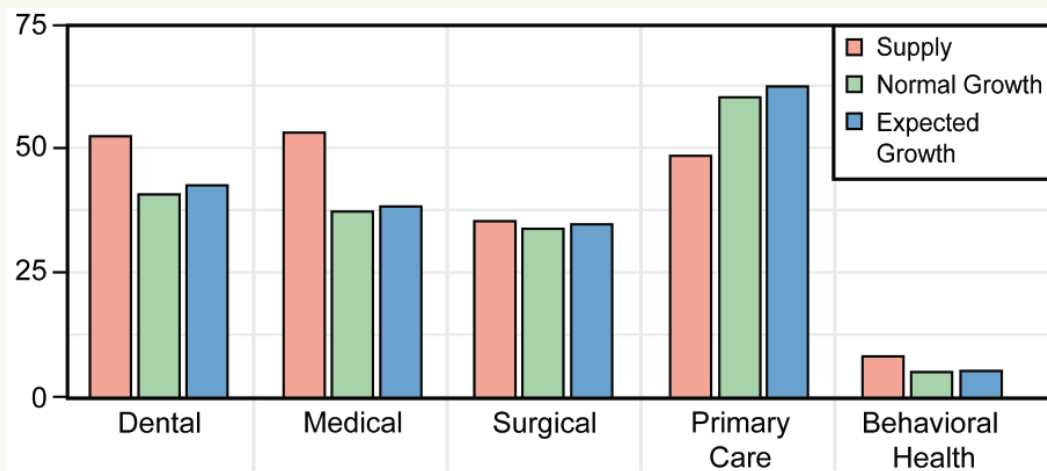
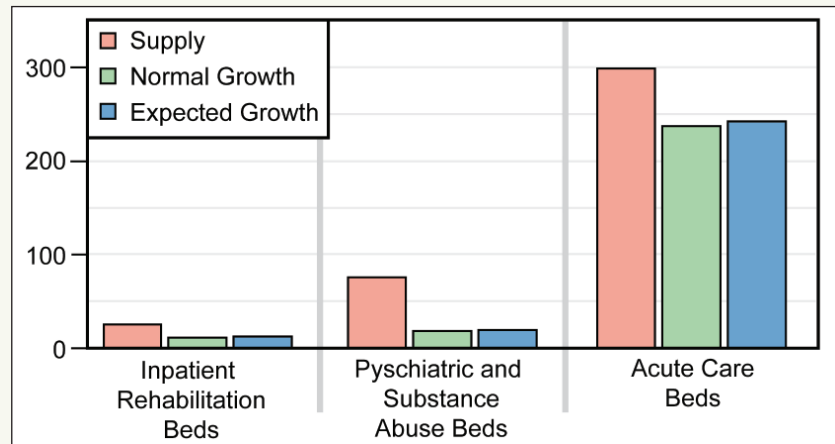


Figure 13. Projected need for inpatient beds in Moore County in 2013 compared to the estimated supply



### 3. Inpatient Bed Needs

As shown in **Figure 13**, Moore County has a surplus of inpatient rehabilitation, psychiatric and substance abuse, and acute-care beds.

Again, it is important to note that FHMR serves as a regional referral center for each of these services. FHMR is one of only two inpatient rehabilitation facilities in the region, and the hospital's psychiatric beds are needed to compensate for twenty-four non-operational beds in the region. In addition FHMR, in conjunction with Cumberland County providers, supports the residents of Hoke County, which has no hospital. Further, its supply of inpatient acute care beds is needed to support the regional specialty services provided at the hospital.

#### 4. Recommended Actions

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**Important Action 1: Develop/update regional facility demand model.**

**Description:** Moore County is prepared to meet the needs of the Moore County population. However, since Moore County is a regional referral center, health care providers will probably also be affected by the growth in surrounding counties. It is recommended that master program and facility plans for FHMR be updated as these relate to the facility's regional service area.

**Responsible Party:** FHMR leadership, in conjunction with other regional providers should be the lead in this effort.

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**Important Action 2: Recruit additional primary-care physicians to the region.**

**Description:** Current and projected populations are expected to place greater demands on existing providers, particularly primary care providers. Recruitment efforts should be focused on primary-care providers to support the specialty programs in the County.

**Responsible Party:** FHMR leadership is in the best position to lead this effort.



## N. Hospitality and Cultural Resources

Lodging and food and beverage establishments are generally available in variety and quantity in Moore County, with most businesses being located in and around the communities of Pinehurst, Southern Pines, and Aberdeen. Meeting space for groups of all sizes is available throughout the county, with the largest spaces offered by the Pinehurst Resort. The county's moderate array of parks, recreation, and cultural programs serve county residents, visitors, and the residents of surrounding counties. Funding for culture and the arts continues to be a challenge.

### 1. Current Conditions

#### a. Lodging

Moore County lodging facilities are located primarily in the communities of Southern Pines and Pinehurst. The county is heavily dependent on

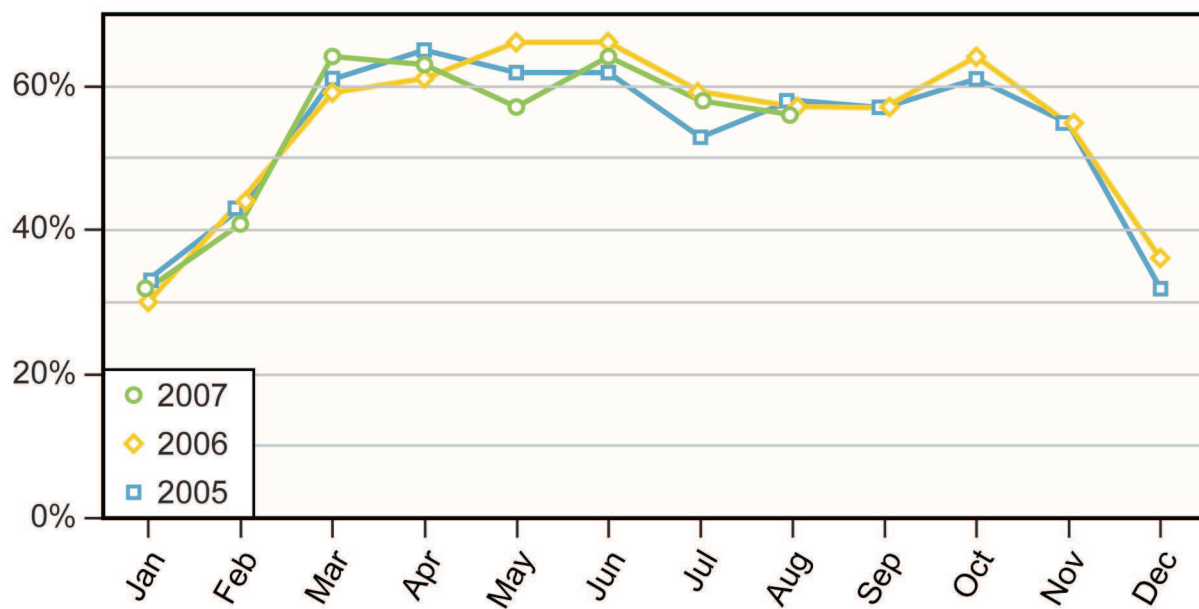
tourism, ranking eleventh among the state's 100 counties in tourist expenditures in 2007 with visitor spending totaling approximately \$349 million. The county offers lodging facilities and amenities that are generally available to visitors to the west of Fort Bragg (Cumberland County accommodates most of the demand generated on the eastern side of the post). **Table 18** outlines the lodging supply in Moore County:

Table 18 indicates that there are 1,721 traditional hotel and motel rooms available in Moore County. However, in discussions with the Pinehurst, Southern Pines, and Aberdeen Convention and Visitors Bureau, it was determined that the total room count, including vacation homes and villas, was 3,770. Of the total number of rooms available, about 2,879 of these are hotel rooms. It should be noted that this figure is inclusive of the 1,721 hotel and motel rooms recognized by Smith Travel Research. Not included

Table 18. Accommodations in Moore County

Name of Establishment	City	Rooms
Country Hearth Inn Aberdeen	Aberdeen	90
Motel 6 Aberdeen	Aberdeen	80
Best Western Pinehurst Inn	Aberdeen	50
Whispering Pines CC Villa	Whispering Pines	41
Sand Hills Golf Lodge	Pinebluff	40
Comfort Inn Pinehurst	Pinehurst	77
Pinehurst Resort	Pinehurst	390
Springhill Suites Pinehurst Southern Pines	Pinehurst	107
Homewood Suites Olmsted Village	Pinehurst	100
Pine Crest Inn	Pinehurst	43
Hampton Inn Southern Pines Pinehurst	Southern Pines	126
Hyland Hills Resort	Southern Pines	40
Microtel Inn Southern Pines	Southern Pines	78
Residence Inn Pinehurst Southern Pines	Southern Pines	80
Mid Pines Inn & Golf Club	Southern Pines	112
Days Inn Southern Pines	Southern Pines	120
Econo Lodge & Suites Southern Pines	Southern Pines	38
Pine Needles Resort	Southern Pines	71
Jefferson Inn	Southern Pines	15
Woodlake Villas	Vass	23

Figure 14. Lodging occupancy in Moore County



in these figures are the future supply additions, including a 104-room Hampton Inn and seventy-six-room Holiday Inn Express in Aberdeen and Southern Pines, respectively. These properties will add to the region's inventory of mid-scale hotels, accommodations that will be able to attract corporate transient demand.

Primarily because so much of its tourism traffic is golfing-related, the county's hotel market is highly seasonal. Spring and fall are the most active seasons; as might be expected, the majority of this business is done on and around the weekends. **Figure 14** illustrates the seasonal nature of the lodging market.

Occupancy is highest in March-June and September-November, with low-occupancy periods typically being December-February and July-August. This can be attributed to the favorable climate for golf in the peak months.

Average rates in Moore County follow the occupancy trends for the region. Rates, which are typically lower in the winter months, peak in May, June, and October, as shown in **Figure 15**.

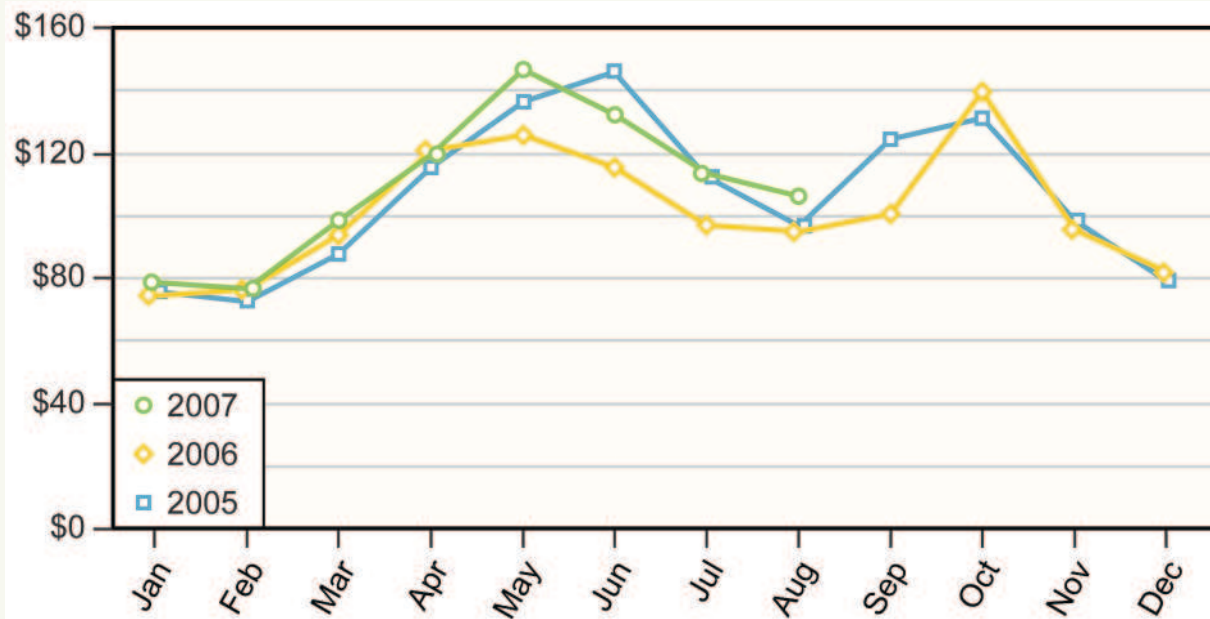
It should be noted that there are frequent ADR spikes, primarily due to professional golf events. For

example, the 2005 U.S. Open (held at the renowned Pinehurst No. 2 course) caused the already high ADR (\$105.21 in June of that year) to soar to \$145.87 throughout the county. Such events typically create "no vacancy" conditions throughout the Pinehurst, Southern Pines, and Aberdeen area.

Historically there has been limited military/government use of Moore County accommodations. This can be attributed to the perceived distance between most parts of county and the main gates of Fort Bragg, as well as to the county's comparatively high lodging rates. Where group business is concerned, the local convention and visitors' bureau reported that of the eighty-four groups that requested overnight lodging in the past year, only three were military. This figure does not include occupancies generated by social, military, education, religious, and fraternal organization groups, which totaled twenty-three in FY 06-07. Since their purpose for visiting often doesn't involve official government business, these groups are typically not eligible for per-diem discounts.

Because the county's ADR in 2007 ranged from approximately \$79 to \$147, and because per-diem rates for FY 07 and FY 08 were only \$60 and \$70, respectively, there were only short periods, during the

Figure 15. The Average Daily Rate for lodging in Moore County



low-demand seasons, in which per-diem business is accepted at Moore County hotels.

The county's food and beverage establishments range from fast-food restaurants to upscale, fine dining. Fast-food, local quick-service, and casual theme restaurants are concentrated along US-15/US-1. Upscale and fine dining is available in the town and village centers, especially in Pinehurst and Southern Pines, as well as in the area resorts. Moore County fine dining establishments currently meet the needs of the local population and also attract patrons from outside the county.

### b. Meeting Space

Moore County meeting facilities tend to be co-located with hotels and country clubs. In the Pinehurst, Southern Pines, and Aberdeen area, sixteen facilities co-located with lodging offer a total of 118,862 sq. ft. of meeting space. There are also several public meeting facilities available at county theaters, schools, and community centers. Meeting facilities in Moore County are outlined in **Table 19** below.

In the past, due to the larger size and upscale nature of many county venues, there has been limited military

and government use of Moore County meeting facilities. Although there are exceptions—The Pinehurst Resort, for example, reports that its banquet halls do host larger (up to 770 attendees) military groups—availability and pricing constraints tend to depress the number of military and government meetings in Moore County.

### c. Parks and Recreation

Moore County's recreational facilities and programs, although numerous and various, tend to focus on the area's golf tradition. Moore County also supports upscale events and programs unavailable in surrounding counties. Below is a sample of the parks and recreation offerings in Moore County:

- Outdoor recreation: especially tennis, golf, and equestrian
- Parks: Weymouth Woods, Davis Park, Hillcrest Park, Lake Luke Marion
- Youth and senior (aged fifty and over) sports

Where parks and recreation are concerned, in Moore County (known as the "Home of American Golf"), the focus is, of course, on golf. The area is currently home to forty-six golf courses and has plans for more. Recent major golfing events have included the 2007

Table 19. Meeting facilities in Moore County

Name of Establishment	City
Capacity: 1-49 Attendees	
Best Western Pinehurst Inn	Aberdeen
Longleaf Golf and Country Club	Southern Pines
Comfort Inn	Pinehurst
Springhill Suites by Marriott	Pinehurst
Capacity: 50-249 Attendees	
Country Club of Whispering Pines	Whispering Pines
Davis Center	Robbins
Douglas Community Center	Southern Pines
Homewood Suites by Hilton	Pinehurst
McDonald Building	Carthage
National Golf Club	Pinehurst
Pine Crest Inn	Pinehurst
Postmaster's House	Aberdeen
Southern Pines Historic Train Station	Southern Pines
Southern Pines Civic Club	Southern Pines
Train House	Southern Pines
Capacity: 250-499 Attendees	
Agricultural Center	Carthage
Days Inn	Southern Pines
Hampton Inn & Suites	Aberdeen
Little River Golf Resort	Carthage
National Guard Armory	Southern Pines
Sunrise Theater	Southern Pines
Weymouth Center	Southern Pines
Agricultural Center	Carthage
Westside Park Community Center	Seven Lakes
Capacity: 500+ Attendees	
Mid Pines Inn and Country Club	Southern Pines
Pine Needles Lodge and Golf Club	Southern Pines
Pinehurst Resort	Pinehurst
Pinehurst Fair Barn	Pinehurst
Sandhills Community College	Southern Pines

U.S. Women's Open at Pine Needles and the 2005 U.S. Open at Pinehurst. The forty thousand people (per day) that attended the men's open generated approximately \$70 million of revenue for Moore County. The Pinehurst Resort has eight golf courses, making it the largest golf resort in the western hemisphere. In 2004 Moore County golf-related enterprises brought in over \$50 million in greens fees and carts fees. Golfing accounted for approximately 60% of the total number of visitors to the county.

Equestrian activities represent another significant recreational favorite in Moore County. The area offers several venues for equestrian activities, including Pinehurst Harness Track and the Prancing Horse Center. In addition to these venues, there are condominium developments that include land reserved for equestrian activities. Moore County's numerous equestrian clubs and events also contribute to the demand at Hoke County's Carolina Horse Park.

In addition to its golfing and equestrian offerings, the county also boasts a superior parks system. Weymouth Woods Nature Preserve in Southern Pines, which consists of 425 acres of state parkland, offers trails, a museum, and interpretive programs. The county also provides tennis courts and cycling paths and sponsors several major events related to these popular sports—the annual Tour de Moore, for example. In deference to its substantial senior population, both indigenous and seasonal, the county provides numerous senior-specific events and activities, which is somewhat atypical for the region as a whole.

While Moore County has sufficient Parks and Recreational facilities to meet current and future needs, funding for ongoing operations continues to be a pressing problem.

## O. Culture and Arts

Moore County's distinguished historical heritage is reflected in many of its more prominent cultural sites. Historic farms, homes, and cultural centers, many dating back to the eighteenth century, are located throughout the region. These include, among others:

- Historic Locales: Shaw House, Malcolm Blue Farm, House in the Horseshoe, Village of Pinehurst, Broad Street
- Museums and Galleries: Campbell House Galleries, Sandhills Horticultural Gardens, Sir Walter Raleigh Gardens, Tufts Archives
- Theatre and Music: Weymouth Center, Sunrise Theater, North Carolina Symphony
- Festivals: Malcolm Blue, Holly Arts and Crafts, Spring Fest, Carthage Buggy

Prominent among the county's historic sites, the Malcolm Blue House dates back to the 1820s. Each September, the farm holds a rural life-themed festival with exhibits, demonstrations, and a Civil War reenactment. The Village of Pinehurst is a National Historic Landmark, and Broad Street in Southern Pines is a National Historic District. These sites and areas have preserved their histories while at the same time offering unique commercial opportunities. The Weymouth Center, located adjacent to the Weymouth Woods Nature Preserve (originally attached to the estate), is home to the North Carolina Literary Hall of Fame. The center hosts a music series, lectures, readings, and workshops throughout the year. In addition to this center, the county has multiple venues for arts, theatre, and special events.

The Arts Council of Moore County offers programs and supports the area's performing, visual, and literary arts and artists. To a large extent, the Arts Council supports programs that originate in and/or serve area counties adjacent to and to the west of Fort Bragg. It also supports the Artist League of the Sandhills, the Weymouth Center, the Sandhills Theatre Company, and the Sunrise Theater. The council also sponsors art-related local, national, and international tours; hosts special events such as the Autumnfest in Southern Pines; and supports a classical concert series.

activities. Lastly, golf and equestrian activities, in addition to local youth and adult sports, are the main focus of recreation in Moore County.

## **1. Future Needs and Gaps**

Moore County offers plentiful hospitality and cultural opportunities for its residents; lodging, restaurants, meeting space, parks and recreational facilities, and cultural activities are generally only a short drive away. Unlike other areas around Fort Bragg, Moore County lodging establishments cater to leisure and commercial travelers whose purpose for visiting is generally not related to Fort Bragg. The area is a well-established resort community known for its championship golf and southern traditions. Additionally, many local lodging establishments offer small to mid-size meeting facilities, while larger venues are available at local country clubs, resorts, and educational facilities. Moore County also offers a solid array of cultural programs, attractions, and

## 2. Recommended Actions

### **Important Action 1: Solicit additional operational funds for county parks, recreation, and cultural resources organizations.**

**Description:** While analysis of the current status of the county's parks, recreation, and cultural resources organizations has not revealed a need for additional facilities, it did indicate that funding for ongoing operations continues to be a pressing problem, one that will be increased, however minimally, by military-related population growth. Additional funding sources, available from the entities established to assist military-impacted communities, should be explored.

**Responsible party:** Moore County Parks and Recreation Department should continue to pursue funding for additional operating funds for existing programs.



## P. Appendix A – Lodging and Meeting Space

	Location	Rooms	Restaurant	Lounge	Meeting Rooms	Number Meeting Rooms	Largest Meeting Room Capacity
Best Western Pinehurst Inn	Aberdeen	50	N	N	Y	1	30
Comfort Inn Pinehurst	Pinehurst	77	N	Y	Y	1	90
Country Hearth Inn Aberdeen	Aberdeen	90	N	N	N	N/A	N/A
Days Inn Southern Pines	Southern Pines	120	Y	Y	Y	4	450
Econo Lodge & Suites Southern Pines	Southern Pines	38	Y	N	Y	1	18
Hampton Inn Southern Pines Pinehurst	Southern Pines	126	N	N	Y	4	40
Homewood Suites Olmsted Village	Pinehurst	100	N	N	Y	3	90
Hyland Hills Resort	Southern Pines	40	Y	N	N	N/A	N/A
Jefferson Inn	Southern Pines	15	Y	N	N	N/A	N/A
Little River Golf & Resort	Carthage	128	Y	Y	Y	3	400
Microtel Inn Southern Pines	Southern Pines	78	N	N	N	N/A	N/A
Mid Pines Inn & Golf Club	Southern Pines	112	Y	Y	Y	6	525
Motel 6 Aberdeen	Aberdeen	80	N	N	N	N/A	N/A
National Golf Club	Pinehurst	25	Y	Y	Y	3	200
Pine Crest Inn	Pinehurst	43	Y	N	Y	4	75
Pine Needles Resort	Southern Pines	71	Y	Y	Y	4	600
Pinehurst Resort	Pinehurst	390	Y	Y	Y	28	1075
Residence Inn Pinehurst Southern Pines	Southern Pines	80	N	N	N	N/A	N/A
Sand Hills Golf Lodge	Pinebluff	40	N	N	N	N/A	N/A
Springhill Suites Pinehurst Southern Pines	Pinehurst	107	N	N	Y	1	25
Whispering Pines CC Villa	Whispering Pines	41	Y	Y	Y	3	525
Woodlake Villas	Vass	23	N	N	N	N/A	N/A
Moore County offers the most upscale lodging facilities							

## Q. Appendix B – Meeting Space outside of Hotels

	Location	Number Meeting Rooms	Largest Meeting Room Capacity
Postmaster's House	Aberdeen	1	50
Southern Pines Historic Train Station	Southern Pines	1	50
Train House	Southern Pines	1	50
Longleaf Golf and Country Club	Southern Pines	3	100
Douglas Community Center	Southern Pines	1	100
Southern Pines Civic Club	Southern Pines	1	117
Davis Center	Robbins	1	125
McDonald Building	Carthage	1	130
Agricultural Center	Carthage	1	299
Weymouth Center	Southern Pines	1	300
Westside Park Community Center	Seven Lakes	1	345
Sunrise Theater	Southern Pines	1	350
National Guard Armory	Southern Pines	1	400
Sandhills Community College	Southern Pines	2	700
Pinehurst Fair Barn	Pinehurst	1	800
Meeting space separate from lodging tends to be smaller and less upscale in nature			